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BULLETIN OF THE

TAYLOR SOCIETY

AN INTERNATIONAL SOCIETY TO PROMOTE THE SCIENCE
AND THE ART OF ADMINISTRATION AND OF MANAGEMENT

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December Meeting Papers On:

The Influence of Scientific Management,

Marketing Costs, Management in the Soviet Union,

The Call for Leadership

and

Periodic Financial Reports—

Fourth in the Applied Scientific Mangement Series

Engineering Societies Building
29 W. Thirty-Ninth St.
New York

APRIL, 1933 VOL. XVIII, NO. 2

Objects of the Taylor Society Incorporated

The objects of this Society are, through research, discussion, publication and other appropriate means:

1. To secure—for the common benefit of the community, the worker, the manager and the employer—understanding and intelligent direction of the principles of administration and management which govern organized effort for accomplishing industrial and other social purposes.

2. To secure the gradual elimination of unnecessary effort and of unduly burdensome toil in the accomplishment of the work of the world.

3. To promote the scientific study and teaching of the principles governing organized effort, and of the mechanisms of their adaptations and application under varying and changing conditions.

4. To promote general recognition of the fact that the evaluation and application of these principles and mechanisms are the mutual concern of the community, the worker, the manager and the employer.

5. To inspire in labor, manager and employer a constant adherence to the highest ethical conception of their individual and collective responsibility.

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Reduction in Price of

"Scientific Management in American Industry"

Inasmuch as it still remains the modern classical statement of Scientific Management, our readers will be pleased to know that the publishers, Harper & Brothers, have announced a reduction in the price of the Taylor Society's book, "Scientific Management in American Industry," from $6.00 to $4.00. This standard work, now in its third printing, will be found to be of exceptional value in meeting the "competition in efficiency," which is one objective of the National Industrial Recovery Act.

Comment

IT APPEARS to us that the fulfilment of NIRA means serious management engineering work ahead, and plenty of it. It will not, however, be of the sort which has been identified with the term "efficiency engineering"—the superficial reorganization of equipment, processes and methods demanded by get-rich-quickly-and-cheaply managements, often at the expense of workers. In such cases "betterment" has consisted largely of arbitrarily stretching more work over each worker. The management engineering of the future will be more generally of that order indicated by articles on production and marketing presented regularly in this BULLETIN.

OF COURSE all depends upon the interpretation of the Act by administrative decisions, but so far they have faced generally in the right direction. Senator Wagner, one of the authors of the bill, persistently declared in his debate with Senator Borah that the intent of the Act was to promote "competition in efficiency." An industry is to be relieved of strict observance of existing anti-trust laws only in case it formulates a governing code which meets administrative approval, and only to the extent that the approved code specifically affords such relief. The price of the relief is standardization of a number of variables of which the existence has led to the belief that good management consists in a matching of wits in their manipulation to competitive advantage. The variables we have in mind are indicated by provision for minimum wages and maximum hours of labor, and by the conditions in the approval of the code of the textile industry to the effect that wages of higher classes must preserve their differentials over those of lower classes, and that devices for increasing the output of workers must for the time being be submitted for administrative scrutiny and approval.

SUCH provisions tend to narrow the field of management by reduction of the area of wit matching in practices unfair to employes and competitors. They tend to limit the area of competitive action to the determination of policies by scientific analysis of social and industrial trends, and to that scientific management of detailed operations which always yields fruit for workers and consumers as well as owners. Industrial trends, consumer purchasing power and tastes, market analysis, design, process analysis, reduction of fabricating and distribution costs by elimination of waste—these should become the focal points of competition in good management. The superficial efficiency engineer of the past is impotent in the presence of such problems. That impotence will be known, for glib publicity will not serve to conceal it. General administrative officers of the future, finding that their area of competitive opportunity consists of better management with respect to those things enumerated above, will want assurance that they will get their money's worth when they engage management engineering service.

AGAIN, we repeat, a great deal depends upon continuance of the present administrative point of view. Great pressure is being brought to get it changed—chiefly by the indirect pressure of holding back in the submission of codes. The idea seems to be that such resistance in co-operation may cause retreat on the part of the Administration or even failure in the administration of the Act. We believe this is a betting on the wrong horse. The administration of the Act may appear to fail because of such resistance, but industry

(Continued on page twenty-five)

The Influence of Scientific Management

Based on A Questionnaire Addressed to Five Hundred American Firms

By **SANFORD E. THOMPSON**

President of The Thompson & Lichtner Co. Inc., Boston,
and President of the Taylor Society

THE amazing wealth of our nation which we are now dissipating so strenuously has been brought about through four lines of scientific development: power, mechanism, process and management. On the other hand, as the present depression has evidenced, we have individually and collectively sadly neglected the scientific development of investing, credit, finance, and distribution. In other words, we produce goods scientifically but we have developed no scientific means to see that they are properly consumed. There has been no Frederick W. Taylor of distribution and finance.

The analysis we are presenting this evening confines itself to the industrial field, but the past twenty years of progress in the industrial field has been so remarkable as to show the possibilities and necessity for broader developments to cover the entire range of individual and collective business and financial activities.

At the risk of beginning the evening with a "dry-as-dust" commentary, I wonder if I may be pardoned for reading to you a brief scientific treatment—perhaps too scientific for an audience of the calibre I see before me—of this problem of finance. This is a letter printed by "Industry" of the Associated Industries of Massachusetts under the caption of "Why the Depression": Following a brief paragraph analyzing Republican prosperity—this was written before the election—Mike Clark, a Tennessee farmer writes to his local newspaper from Holler Brook Junction:

"I have taken my own case for instance. I see my mistakes, and many others have acted likewise. I bought a Ford instead of a farm, and it is worn out, but the farm I figured on is still O.K. I invested in a Radio instead of a Cow, and the Radio gives static instead of milk.

"I am feeding five nice hounds, which answer to the names of Red, Redwing, Jake, Slobber and Bayrum, instead of five pigs. I had our piano tuned instead of our well cleaned out. I spent all of my cash in 1928, and used my credit in 1929, and traded up all my future wages in instalments in 1930; so hard times caught me in bad shape last fall.

"I am on the cash basis now but I ain't got no cash. I am tied to the end of my rope, and the man I am working for is busted on account of nobody won't pay him, and his cotton won't sell 'cause nobody won't buy no cotton clothes. All the gals wear slick, silky underwear right here in our own cotton patches. I had four dollars saved up for a rainy day, but it turned off dry and I spent the four dollars for two inner tubes.

"I tried hard to make both ends meet with a turnip patch, but when I got turnips ready to sell, everybody was selling turnips for nothing and the market was glutted. I am worried plum to the bone, and my wife's kinfolks are coming over next Tuesday to spend two weeks."

Let us now come down from the realms of high finance to our study of the influence of Scientific Management in American industry.

General Conclusions

To determine the influence of Scientific Management upon industry, questions were sent to a number of manufacturers of the progressive type all over the country. Answers regarding their organization and methods of management in production, accounting and marketing were received from representatives of the major lines of industry located in the various manufacturing states.

The returns from the study indicate not only an advance in scientific method but also the vital part played by Scientific Management in the remarkable stamina of so large a proportion of our industrial establishments in resisting the effects of the drastic reduction in output. I venture to say that if such a depression as this had occurred twenty years ago with the then existing methods of production, procedure, accounting, and budgetary control, the number of business failures would have been innumerable.

The returns show a remarkable adoption in practice of the fundamental principles first developed by Frederick W. Taylor in production and inventory control, incentives based on time study, and functional organization. Budgeting of sales, production, and operating costs, which has played so large a part in reducing the number of industrial failures during the depression, while distinctly less common than other phases of management is carried out by an appreciable majority of those replying to the questions. Marketing methods, on the other hand, are relatively backward in their various phases, although a large number of firms indicate scientific development in selling.

Principles of Scientific Management

In planning an analysis to indicate the influence of Scientific Management upon American industry it is necessary as a premise to consider the fundamental principles.

Frederick W. Taylor gave the four great underlying principles of management substantially as follows ("Principles of Scientific Management"): (1) Development of a true science to replace rule-of-thumb methods; (2) scientific selection of the personnel; (3) scientific education and development of the personnel, to insure the carrying out of scientific methods; (4) intimate friendly co-operation between the management and the men, dividing the responsibilities and work between them.

These four principles in practice require: (1) The development of standards of methods and procedure; (2) the fitting of a man to his task; (3) the provision of means to encourage each man to best utilization of his ability; (4) an organization which effectively controls and actuates the various phases of the business.

It is evident that these fundamentals apply not only to production but also to all phases of accounting, marketing, and organization. They also apply in principle to the conduct of business as a whole: the adoption of scientific methods of procedure planned in advance and then carried through to a definite goal by means of smooth running organization which eliminates the dire catastrophes which are now coincident with modern business.

To determine, however, the extent to which industry has progressed in these directions, it is necessary to find out whether these general principles are being followed. But since the answers to direct inquiries would be indefinite we must determine whether the specific procedures which are essential to scientific management are being operated. While prosecution of procedures does not prove conclusively that the spirit of the principles is being maintained, it is fair to assume—especially in view of the practical results which we know are being attained generally where the methods exist—that scientific methods tend to produce scientific management.

The agreement of the methods generally used in modern practice in the more scientific shops with those first enunciated by Taylor is so close that we may go back to Taylor for the basis of our present inquiry. Note that these methods now so general were actually non-existent before Taylor worked out the fundamentals in the 1880's and were scarcely further advanced when in 1911 he wrote "Shop Management."

The following is a summary of the chief "leading functions" as outlined by Taylor ("Shop Management"): (1) Analysis of all orders; (2) time study of hand work; (3) time study of machines; (4) balance of stores, or running inventories, of raw materials, stores and finished parts and balance of work ahead for men and machines; (5) promises of delivery, based on standard times and available men and machines; (6) standard methods of performance and standard tools and appliances; (7) maintenance of methods and of plant; (8) employment bureau; (9) pay department. These are the more important of Taylor's "functional elements" and assume an organization designed to supervise each.

Even without a survey such as we have conducted, it is evident from our knowledge of industry that these essentials of scientific management are in widespread use. But we also find many cases where orders are put into the shop in sequence of their receipt without regard to machine capacity; records of quantities of stores on hand in the heads of employes but not on paper; in a large percentage of establishments the omission of the most essential element in planning, *viz.*, standard times in scheduling work; and we find piece rates set by guess and past performance.

I challenge the manager of any successful plant to deny not only that the elements enumerated are essential, but also that a large measure of his success in smoothness of operation, reduction in cost and maintenance of quality are due to the carrying through of these principles.

On the other hand, as regards marketing and distribution, we find on every side a confirmation of the findings in our study of the lamentable deficiency in the application of the basic principles, which are adaptable to these branches of industry. We find also in other phases of business—credit and finance—a still greater lack of elements of planning, control, and standardization.

The Survey

The returns from the survey conducted by the author indicate the status of scientific methods in industry. The principal divisions of the questionnaire were:

Production: Running inventories or "balance-of-stores";
Planning and control;
Incentives and time study.
Accounting: Cost accounting;
Budgeting.
Organization: Division of responsibility.
Marketing: Compensation of salesmen;
Quotas;
Territorial assignment;
Routing;
Training of salesmen;
Market analysis.

Certain other elements are also essential in scientific marketing such as merchandising and product analysis, but it is evident that the items enumerated all relate to the fundamental principles of scientific standardization, planning and control, and training of the personnel.

Accuracy of Returns

In laying out the plan for the questionnaire the writer first consulted a number of management engineers and former associates of Mr. Taylor, including Carl G. Barth, King Hathaway, Robert T. Kent, H. S. Person, Edward W. Clark, 3d, John H. Williams, Henry P. Kendall, Henry Post Dutton, John M. Carmody, William H. Leffingwell, Richard H. Lansburgh and G. E. Schulz. The series of questions was prepared in such a way as to permit a "Yes" or "No" answer, and with a covering letter was mailed to some 500 concerns. This relatively small number—of whom about 25 per cent replied, a satisfactory percentage—apparently gave returns that were quite representative of the class of firms replying. Since the returns were signed, confidentially, it was possible to gauge their size and standing. The number of concerns is sufficient to be indicative.

On the other hand it is obvious that those replying, because interested in the review, are those operating under modern methods of management. Furthermore, an executive answering this type of inquiry naturally puts a high standard on his virtues and performance and interprets questions so as to present the best possible showing. In the study of the figures, therefore, it was clearly borne in mind that the principle conclusions must be based upon relative percentages rather than upon actual figures. Admitting that the returns necessarily present a roseate picture as a whole, it is fair to assume that in relation to each other the findings may be accepted as fairly representative of American industry.

Production

Running Inventories. Some 95 per cent of those replying state that they maintain inventories on raw and on finished material; some 15 per cent fewer on material in process, while 30 per cent fewer apportion material to orders. These relative values are substantially what one would expect, although the percentages all appear high for industry as a whole. Inventory values are reflected in general accounts in the large majority of concerns.

Planning and Control. A large percentage of those replying, 82 per cent, maintain planning as a definite function either through a department or an individual. A larger percentage than this claim to take into account the capacity of the departments and the "choke" points when planning. Evidently, however, many did not appreciate the significance of this most important characteristic of planning or in fact of the use of standard times—which 77 per cent claim to use. From direct contacts which we have with plants all over the country we find a surprising ignorance even in large plants of the importance of using the time element in scheduling the work to the different departments. Even with this qualification on the accuracy of the returns we see what a remarkable hold the general principles of planning and control have attained in production management.

Incentives. Over three-fourths of those replying have an incentive type of wage payment, showing that there are still opportunities for real development. Two-thirds of the plants on incentive use straight piece work, and one-third some form of bonus or premium. A few (4 per cent) use day work standards; the balance straight day pay. The number of operatives on incentives in the plants which use incentive plans ranged from 15 to 100 per cent, with an average of 69 per cent. While more than two-thirds of those replying use a stop watch, a much smaller number utilize unit times for setting wage rates. Many still base their wage rates on past experience.

Accounting

About three-fourths of those replying state that they use either standard costs or job costs, and about the same proportion say they tie in their costs with the general books. In 43 per cent of the replies the overhead is distributed by departments, and in about the same percentage by a per cent of labor costs. Fourteen per cent distribute by groups of products. Here again we note definite possibilities for improvement.

Budgets for expected sales, expected production and permissible operating costs are maintained in about two-thirds of the replies. Monthly or four-weekly profit and loss statements are reported by 90 per cent of those replying. This common practice, like most of the other features considered, has developed almost entirely during the last twenty years. Taylor worked out the basis of present accounting methods in the early 1890's.

Organization

Functional management, that is, the distribution of authority by function rather than entirely by line, is necessary properly to control the working of a business organization. Consequently the questions regarding special departments or functions under a sub-executive or specific individual on whole or part time are of special interest.

Of the firms replying some 90 per cent stated that they maintained such divisions in production and control. Almost two-thirds have time and methods study divisions; over 80 per cent carry repair and maintenance departments and 70 per cent separate employment or service as a distinct function of management.

Marketing

While in production we find a preponderance of what may be termed scientific methods, in marketing we find a different picture. Unstandardized methods predominate. It is here that we find that nearly half of the companies pay straight salaries, most of them with expenses; about one-quarter pay commission with or without a drawing account; and the remainder pay salaries plus commission, or use both salaried and commissioned men.

A most striking feature of the returns is the preponderance of the plan of compensating solely on the basis of volume sold without regard to any other factors. Manufacturers apparently fail to realize that compensation on a basis only of volume sold, with no consideration of effort, balanced sales or profit, is akin to the antequated and obsolete payment in factories of uniform piece rates regardless of variation in the character of the operations.

In determination of quotas, in allocation of territory, in routing salesmen, and in utilizing the accumulation of knowledge regarding product demands, there also is marked deficiency in application of the scientific method of approach and its utilization in practice.

The unscientific methods of commission payment are striking—and it must be remembered further in all of this marketing tabulation as well as in production that there is an unavoidable weighting of the results on the high side. Four-fifths of the concerns which report commission payment pay on volume sold alone—only one-fifth considering profit or type of product. Considerably less than two-thirds set quotas. Only 25 per cent allot territories by definite rule, the large majority using judgment only. Again we find that the majority route their salesmen merely by total territory—only 7 per cent route salesmen by exact schedule.

In the selection of salesmen more than half select merely by references. More than three-quarters train simply by verbal instructions.

In the knowledge of markets the picture is somewhat better. Nearly two-thirds of those reporting think they have a fairly good idea of their markets and the proportion of the business which they themselves get.

The conclusion is obvious, however, that sales management in the majority of industrial concerns, even the larger and better managed ones, is markedly inferior to the management of production; and yet the dire need is evident, in this period of unbridled competition, for the most effective and profitable sales methods. Executives throughout the land are devoting their efforts chiefly to marketing problems. It would appear that there is an opportunity as yet unappreciated by many of them for profitable sales through more scientific methods of sales management.

General Progress

Marketing Progress. All in all, while it is evident that progress in the science of sales has been markedly less than that in production, the returns do indicate a definite progress and foreshadow a sound and rational advance. This is particularly certain if we examine what some individual concerns have accomplished in scientific sales development. A few have in fact attained a standard of practice equal to the highest developments in production lines. These accomplishments have resulted from the utilization of methods closely akin to those which have produced such outstanding results in production lines. In professional work carried on by our own organization, for example, we have adopted similar principles of analysis of the problems involved to those which have proved so satisfactory in other branches of management. Planning and control are as necessary in selling as in production. The introduction of salesman's compensation involves principles similar to those required for wage or salary compensation in the factory. Market analysis is based on a scientific examination of the needs of a situation and the simplest means of obtaining desired results.

Production Progress. The status of progress in production can be somewhat more closely defined. Viewing the picture as a whole on the basis of a general examination of returns rather than of computed values, it would appear that more than 75 per cent of the firms replying are working with a preponderance of scientific methods. Allowing for the measurable weighting in the returns which has been noted, we may estimate, I believe conservatively, that at least 50 per cent of the industrial production in the country is carried on by methods which in the main fall under the category of Scientific Management. In marketing the estimate would fall as low as 25 per cent. Many of these, of course, fall far short of the ideals of Frederick W. Taylor ("Principles of Scientific Management": Science, not rule of thumb; harmony, not discord; co-operation, not individualism; maximum output in place of restricted output; the development of each man to his greatest efficiency —and prosperity) but the accomplishments have been remarkable.

Development in Machines and Processes. In the introduction were mentioned other phases of scientific development which have taken place coincidently with the development of management. These are power, mechanization and process. The development of power has been chiefly dependent upon electrical progress, although oil and gas and coal have played their part, which in turn has involved the highest degree of scientific research.

The design of machines, made possible by power, has proceeded apace. Taylor used to say that up to the 1880's machines were built by guess with no computation of stresses. If a part broke, it was enlarged the next time. More recently machine development in certain industries, but by no means in all, has been elaborating automatic equipment which replaces manpower to a remarkable degree. Along with this we have scientific progress as distinct from cut and try methods along such lines as the art of metal cutting, following the pioneering researches of Taylor in high-speed steel beginning in the 1870's.

Process development has received less publicity than machine design but has played an important part. Research divisions are maintained as district departments in all large industrial concerns. Electrical and chemical and physical research have developed processes and new products which have had such marked effect upon our social as well as upon our business structure.

Influence of Scientific Developments Upon Business in General

We cannot close without looking at the broader business and social aspects of scientific development. Has the getting of wealth made us poor? Must we, as some would have us believe, drop all our philosophy of productivity? Must we, as some of our orators would tell you, dig our dirt with tea spoons? Shall we throw away our automatic machinery? Shall we adopt permanently the ca'canny policy of Great Britain to work slowly to make the work go 'round—a policy that in 1926 caused America to produce three and one-half times as much goods per man as Great Britain?

To answer this question let us examine the philosophy of increased unit production. Let us for simplicity assume a small, self-supporting territory. Let us suppose that the automobile manufacturer in this territory reduces the intrinsic cost and selling price of his automobile one-fourth. This throws, let us say, 1000 men out of employment. But the rest of the people in the community by saving 25 per cent on their car can purchase more of other goods. The men thrown out of the automobile factory will therefore obtain jobs in other places. And note this: every man by being able to buy more goods will raise his standard of living. This is what actually has been happening in the United States ever since its founding. And now we are told that we are reaching the limit of our consumptive capacity; we have no more absorption power. I tell you, friends, that this is the most dangerous possible philosophy irrespective of whatever social order we may develop. If we are to progress, if our $1,000 a year men are to become $4,000 a year men, we must continue to increase our unit productivity.

The Future for Scientific Management

But do not misunderstand me. I am talking about unit productivity and not about total production. We cannot absorb an unlimited quantity of shoes; we cannot eat more than a certain amount of food. We can absorb more automobiles, radios and airplanes. We can use better houses, better clothes and more luxuries. It is evident as our productivity continues to increase that real satisfaction in life requires a broadening of our consumptive capacity through greater production of those things which make for higher development, physical, social and spiritual. To provide employment and purchasing power for all under such conditions involves creating greater opportunities in the so-called service industries and public services. With the greater leisure that should be at our disposal—not forced leisure as at present, but planned leisure—we shall have the time and opportunity for enjoying these broadened interests and activities.

We must have a bold stimulation of business activity in contrast to a policy of drifting toward lower levels. There are only two alternatives: either let matters take their course with only sufficient action to avoid banking collapse, or else, as we would do if war were declared, start industry through the immediate injection of the means to increase purchasing power among the rank and file of our people who are now suffering and in some instances dying. All of these things are a challenge to Scientific Management; to the extension of the science of management to the broader fields—not only to marketing, but to the analysis of the broader problems of distribution, credit and finance. Means will be found in the coming years for adjusting the volume and flow of goods to all consumers just as surely as it has been worked out in the factory from the old rule of thumb to the scientific control visualized by Frederick W. Taylor. Means will be found if our present social order is to survive for a control and scheduling of financial investments and credit. These things can be solved by the same type of scientific analysis which has produced such astounding results in production.

Finally, it must be recognized that it is a national duty to provide work at least a subsistence wage to *all* who desire it. This is a social responsibility which must be solved by the scientific method.

Address before a meeting of the Taylor Society, New York, December 8, 1932.

(*Comment continued from page twenty-one*)

should not forget that the political Administration has manifested intent and will and adroitness, and has every day more votes to respond to any appeal, and the next stage would likely be one of removing the resistances in a whirlwind "emancipation" campaign.

While there may be danger from slowness in submitting codes, we do not believe that to be the greatest danger. The greatest danger lies in our expectation of too much from NIRA as a restorative.

The principal value of NIRA is its power by establishing conditions of fairer competition to reduce the probability of a new depression *after we have emerged from the present depression.* As a stimulant to rapid emergence from the present depression its value is secondary and very likely not sufficient. To be sure, there is a moderate basic and substantial renewal of activity underlying the superstructure of speculative inflation which may not prove to be so substantial. Because of prospective inflation and probable increase of the price level there is more of a willingness all along the line to assume the responsibility of carrying inventories. But these activities are largely a flight from the dollar and will have a stopping point. Manufacturers of consumer goods will not go far beyond this speculation in commodities until there is a positive demand for their output; and manufacturers of producer goods, in which there is the greatest unemployment, will not go very far until consumption is of such volume as to cause a demand for additions to or replacement of now idle consumption goods equipment.

The provision in the codes for shorter hours will spread income among more spenders, and the provisions for minimum wages and maintenance of higher wage differentials will increase labor's income; but only to the extent that there is actual employment. The extent to which there will be increase of em-

(*Comment concluded on page thirty*)

The Cost of Marketing

A General Analysis of the Factors Involved

By **L. D. H. WELD**

Director of Research, McCann-Erickson, Inc.
President, American Marketing Society, New York

THE AMERICAN Marketing Society welcomes this opportunity to meet with the Taylor Society. We appreciated your invitation to arrange the program for one of your meetings last winter; we are gratified to find that our participation at that time encouraged you to ask us to arrange the program for this session.

We are a young organization. Our object is to promote the scientific study of distribution. When Mr. Frederick W. Taylor was doing his important work some thirty years ago, the field of distribution had not been recognized as a separate and important phase of economic activity. There was no literature and no body of knowledge on the subject. Scientific analysis of marketing problems had not been thought of. Only during recent years has the importance of the subject been recognized, due largely to the shifting of emphasis from production to selling problems.

Today there are many men who are devoting their lives to marketing problems. We have banded together to promote scientific research, to increase the efficiency of the marketing system, and to reduce the cost of distribution. We have chosen as our general subject for this session, "The Cost of Marketing."

This subject, "The Cost of Marketing," covers a broad field and has many phases. There is the question of the total cost of marketing and whether it is increasing. This includes a study of manufacturers' selling costs, wholesale costs, and retail costs. It covers such problems as the following: the effect of large-scale marketing in lowering costs; the variation in costs by size of city, section of the country, and by trade; the analysis of costs by item, by size of order, and by customer; the relation of advertising costs to selling costs; and finally, what has been done and can be done to reduce distribution costs?

As for the total cost of marketing, which will be considered in this paper, I have roughly estimated that in 1929 the total cost of getting goods from producer to consumer in the United States amounted to around twenty-seven billion dollars. This is made up of retail costs of about thirteen billion dollars; wholesale, about six billion dollars; transportation, about four billion dollars; and manufacturers' selling costs about four billion dollars.

If anything, this estimate is probably too conservative. No attempt has been made to reach the highest possible degree of accuracy, because the main object of this estimate has been simply to point out the tremendous importance of marketing in our national economy. This estimate of the total cost is a sum equivalent to nearly one-third of the estimated national income of 1929; marketing activities account for the work of somewhere around thirteen million people, or about 27 per cent of the total number gainfully employed. This great field of economic activity has been largely neglected by economists and has been subjected to scientific study only within the past fifteen or eighteen years.

This high marketing cost is in itself no indictment of our marketing system. Distribution from producers to consumers is necessarily a costly and complicated process. It involves various services or functions, as follows: the assembling of products from various sources for redistribution; the storing of articles in public warehouses, wholesalers' warehouses and retail stores; the financing of operations, involving the tieing up of billions of dollars by the owners of commodities during the marketing process; the assumption of risks from price fluctuations and from deterioration in quality; sorting and grading, including breaking up of large packages into smaller units and repacking them; the actual selling and advertising; and the transportation of commodities from one place to another, including delivery by wholesalers and retailers.

All these functions must be performed in the marketing process and it costs money to perform them. Eliminate a middleman and you do not eliminate the functions that he has been performing. Middlemen are specialists in their field and by combining the outputs of many producers, they are able to perform the marketing functions at a lower cost than producers could perform them individually. In other words, their existence reduces rather than increases the cost of marketing.

When we study the trend of marketing costs, we find many sensational statements to the effect that they have been rising abruptly during recent years. Professor McNair of the Harvard Business School, in an address before the recent Boston Retail Conference, referred to rising costs in retail stores and concluded that, "If we are to keep business on an even keel and maintain the steady flow of commodities from producer to consumer, we cannot tolerate the existing waste and inefficiency of distribution." The Twentieth Century Fund recently reported that "preliminary and tentative figures," covering a diversity of manufacturing concerns showed "from 1920 to 1930 an increase of nearly 30 per cent in the relation of selling costs to sales." A recent writer in the New York Times claimed that selling costs have doubled since 1870 and that they are now a great burden on industry. These are samples which represent the prevailing opinion with regard to marketing costs.

In discussing this subject there are three fundamental facts that must be borne in mind, each of which deserves elaboration. They are first, that over a long period of time costs have necessarily risen, due to the bigger job that the marketing system has been called on to perform; second, that there is no such chance for mechanization in marketing as there is in manufacturing; third, that cost changes during depressions and periods of rapidly falling prices do not represent fundamental trends in marketing costs.

Long-Time Cost Trends

As for the fact that costs have necessarily risen over a long period of time, it is obvious that the marketing job was comparatively simple 150 years ago when the system of household economy prevailed and when there were no factories and no railroads. When each family produced most of the goods it needed, little marketing was necessary. When each family specialized on the production of some one commodity, marketing was still a simple matter, often carried on by barter.

With the advent of the industrial system came geographical specialization. People in each part of the country devoted themselves to the production of certain commodities and they became more and more dependent on the outputs of factories and farms located hundreds and even thousands of miles away. Along with this change there necessarily developed a distributing system composed of wholesalers, who gathered goods in large quantities from distant communities, and retailers to parcel these goods out in small quantities to consumers.

This marketing organization developed gradually. At first it was crude. Goods were packed and handled carelessly; unsanitary conditions prevailed; people of low intelligence were employed; retailers especially in small towns and cities bought half a year's supply at a time; goods became antiquated and shopworn; consumers went to stores with market baskets and carried their goods home; higgling was a common occurrence; honesty was not always considered the best policy. Some of these shortcomings and crudities have not entirely disappeared today.

The point is that the services offered by middlemen have gradually improved; and this improvement has necessarily increased the cost of distribution. In other words, marketing costs have risen during the past hundred years, and even during the past twenty years, because the distributive system has been called on to do a bigger and better and more complex task. Whatever the spread is between producers' and consumers' prices, we are better off today under our system of industry and trade than was ever possible under the old household system. The benefits of factory production and geographical specialization far outweigh such disadvantages as are inherent in our expensive marketing system.

Restricted Field for Mechanization

That there is no such chance for mechanization in marketing as there is in manufacturing is due to the simple fact that salesmen still have to be used in making business contacts and in effecting exchange. It is true that some marketing is done automatically through slot machines or through "coin-device automatic merchandising," as it has been called. It is said that twenty-five million dollars worth of cigarettes are sold through coin machines each year; that Automat restaurants feed 500,000 people a day in New York, Philadelphia and other cities; that there are 10,000 handkerchief vending machines in the United States; and it is well known that hundreds of millions of pieces of gum and candy are sold in this way.

There are other developments in mechanization of marketing. Machinery is used for handling goods in warehouses and stores. There is the standardization of methods of chain stores in accounting and display. There is the self-service principle which reduces personal salesmanship in retail stores; and in this connection, advertising should be mentioned as also displacing personal salesmanship. Some companies let advertising do the whole job of creating demand. Selling and marketing costs today would be immeasurably higher if the present volume of trade were accomplished entirely by personal salesmanship. But on the whole, personal salesmanship is still necessary and will continue to be necessary in the marketing process, and therefore there is no such chance for technological development as there is in factory production.

Costs During Depression

The third point is that cost changes during depression do not indicate long-time trends. We must draw the line sharply, for example, between the tendencies of marketing costs up to 1929 and the trend during the three years that followed. Costs, when expressed as a percentage of sales, invariably tend substantially upward during a business depression, because of declining volume of dollar sales. The cost of operating wholesale hardware houses increased from 20 per cent of sales in 1929 to 26.5 per cent in 1931; operating costs of large department stores increased from around 33 per cent in 1930 to around 35 per cent in 1931; women's specialty shops showed an increase from around 35 to over 36 per cent. These figures are typical of what happened in all trades.

This does not mean that actual operating costs increased. We are aware of the heroic efforts made by wholesalers and retailers to reduce costs by dismissing employes, by cutting salaries and by carrying smaller stocks. But expenses have not dropped in proportion to the decline in dollar volume, and hence they have become a larger percentage of sales. From 1929 to 1932 both prices and physical volume declined radically.

These considerations suggest that the method of expressing cost as a percentage of sales must be used with caution in measuring cost trends over a period of years. Allowance must be made for price and volume changes before sound conclusions can be drawn. An executive of a large chain store company told the writer, "Of course, costs rose in 1932 when expressed as a percentage of sales, but expenses per ton of goods handled actually decreased." The tonnage basis of expressing costs is impossible for most stores, although cost per ton or per unit is valuable whenever practicable.

It is hard enough for a retailer to reduce variable expenses, such as salaries, during a period of depression, but the reason why he cannot adjust expenses to declining dollar volume is that so many of his costs are relatively fixed. Rent, heat, light and taxes vary little with changes in dollar sales. Difficulties that retailers have experienced with rents during 1931 and 1932 illustrate this point. The United Cigar Stores Company was forced into the hands of a receiver largely because of real estate losses and high rents. A large retail clothing house in New York, which also had to go into receivership, found that rents in some of its stores amounted to more than 20 per cent of sales. The University of Chicago in co-operation with the United States Department of Commerce made a study of bankrupt retailers in Chicago in 1932 and found that the rents of these concerns ran as high as 25 or 26 per cent in some trades, whereas the normal rent of successful stores in the same trades ran from 4 to 5 per cent of sales. Many retailers have obtained readjustments of their leases during depression by proving to landlords that they would have to go out of business unless substantial concessions were made. Retailers are prone to expand their operations, move to expensive locations, and increase the proportion of non-selling space during times of prosperity. The element of inflexibility in costs becomes a serious matter when prices and physical volume decline, and tends to prolong the period of hardship.

Recent Cost Trends

To come back to the main question as to whether marketing costs have been rising during the past fifteen or twenty years, (aside from temporary changes during periods of depression) it is difficult to give a final and complete answer. There are two avenues of approach to this problem. The first is to estimate the total cost of the whole range of marketing activities for various years. The objection to this method is that there are not sufficient data for accurate estimates. The second method is to study trends in operating costs in individual trades. The objection to this is that accurate cost figures over a sufficient period of years are available for only a few trades.

The first approach has been used in an interesting way by Mr. W. H. Lough, who presented the results of some of his studies before the Taylor Society in 1931, and who has since reported his findings on this point at the Boston Retail Conference in 1932. By building up elaborate estimates based on data from various sources for the years 1909, 1914, 1923 and

1929, he arrives at the following figures as representing the "per cent of total spread to retail values" of consumer goods.

Year	*Per cent*
1909	35.76
1914	35.34
1923	36.27
1929	34.81

These figures do not include manufacturers' selling costs. Mr. Lough's conclusion is that "no well-defined trend of wholesaling-retailing costs, either up or down, is discernible." Mr. Lough goes on to examine manufacturers' selling expenses, and finds evidence of a possible slight increase, probably amounting to less than one per cent of the consumer's dollar. His final conclusion is that there is no justification for the statements that distributing costs are becoming more and more burdensome.

Cost Trends in Individual Trades

The second approach involves examination of figures in individual trades over a series of years. There are presented herewith certain figures showing operating costs in department stores, specialty stores, retail jewelry stores, retail hardware stores, wholesale hardware houses and wholesale druggists for varying series of years.

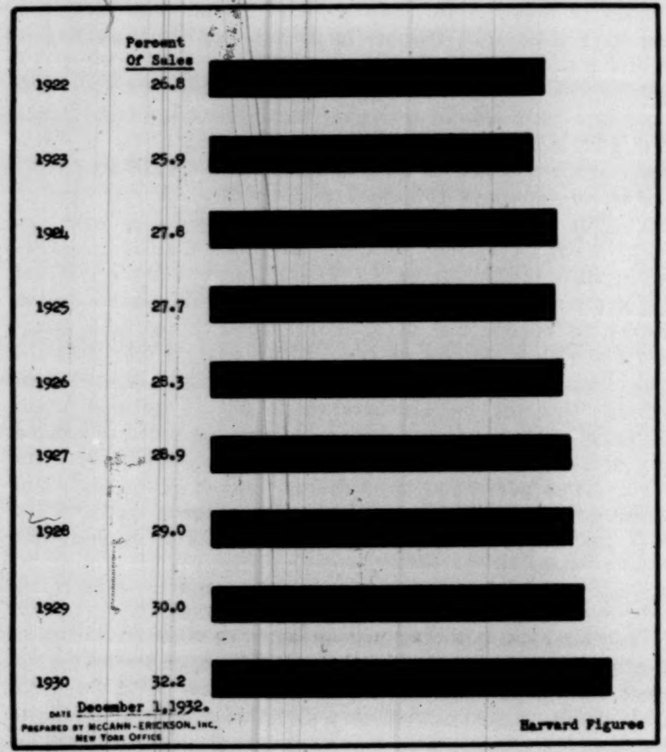

CHART I. OPERATING EXPENSES OF DEPARTMENT STORES WITH LESS THAN $500,000 OPERATING EXPENSES.

The figures for department stores and women's specialty shops are hardly typical of all retail establishments because it is in this field that there has been the greatest rivalry in the development of extraordinary services. It will be noted in general that costs have jumped during periods of depression, such as 1930, 1921 and 1914, but that they have declined again immediately afterward. In general, also, costs have shown only fractional changes during periods between depressions, sometimes declining a little, more often showing slight increases.

Attention is especially called to the figures showing operating expenses of wholesale druggists, which admirably illustrate the points that have been discussed above. These run back to 1878, and are the earliest operating cost figures which the reader has been able to find. The existence of these figures is due to Mr. W. A. Hover of Denver who, as a member of the National Wholesale Druggists' Association, was a pioneer in collecting this sort of data.

It will be observed from these figures of wholesale druggists that costs showed increases in the depression years, and tended to level off, or even decrease, during normal or prosperous times. On the whole, however, costs have gradually risen in the past fifty years from around 9 to 14 per cent. This has been due to the larger and more complicated task that wholesale druggists have been called on to perform. For example, there has been an enormous increase in the number of articles that a wholesale druggist has had to carry. In 1883 the largest distributor of proprietary articles in New York listed less than 5,000 proprietary items; in 1906 the number had increased to nearly 18,000. Since proprietary items account for over half of a wholesale druggist's business, this increase in number of items meant greater investment in stock, increased warehouse facilities, smaller orders and more frequent deliveries.

As for smaller and more frequent orders, fifty years ago the retailer ordered in fairly liberal quantities. Even in 1920, before the hand-to-mouth buying era is supposed to have started, 75 per cent of the drug jobber's proprietary business was in lots of one-fourth of a dozen, one-sixth of a dozen, and one-twelfth of a dozen. Only 12 per cent of his business was in lots of one dozen or over.

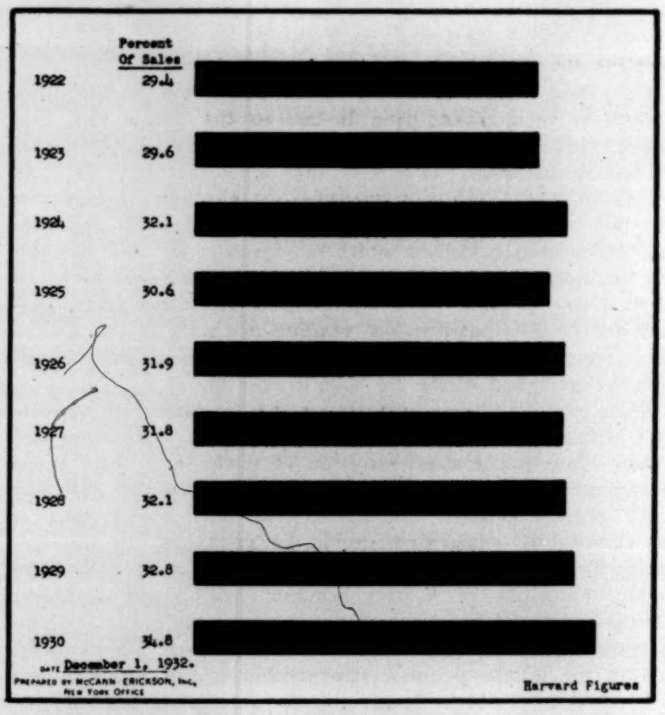

CHART II. OPERATING EXPENSES OF SPECIALTY STORES.

In other words, the gradual increase in jobber costs has been due to constantly increasing size and variety of stock, as well as unpacking and repacking, to increasing complexity of service, due to delivering and accounting for broken lots, and making more and more frequent deliveries. That the wholesale druggist

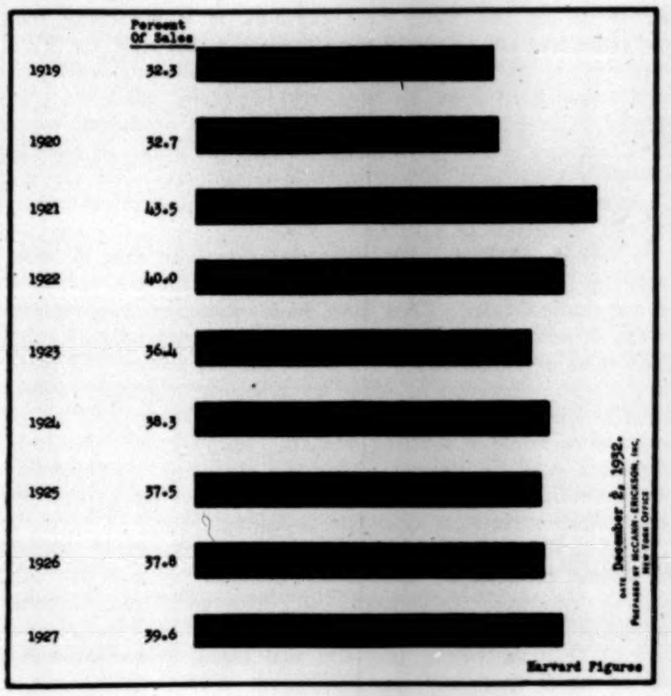

CHART III. OPERATING EXPENSES OF RETAIL JEWELRY STORES.

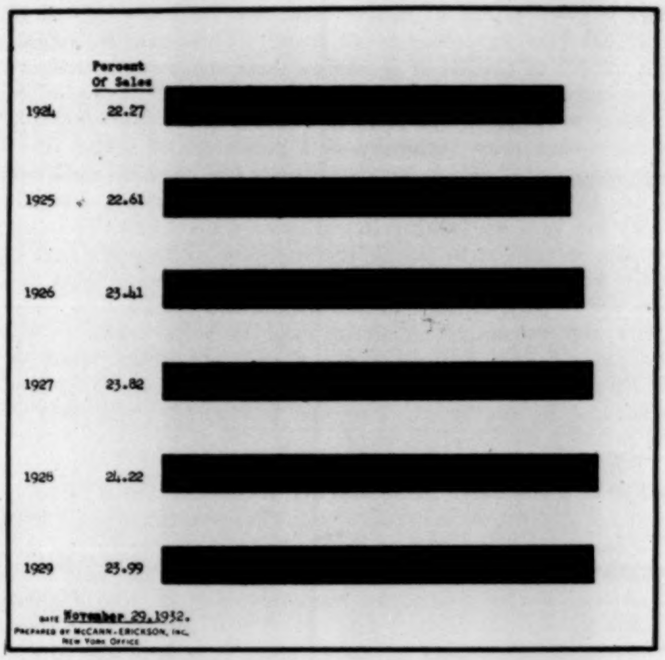

CHART IV. OPERATING EXPENSES OF RETAIL HARDWARE STORES.

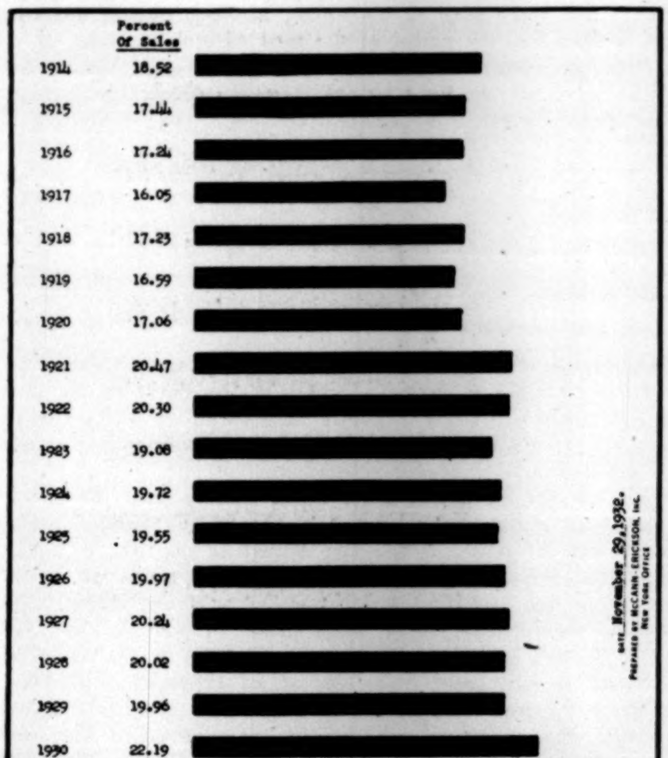

CHART V. OPERATING EXPENSES OF WHOLESALE HARDWARE HOUSES.

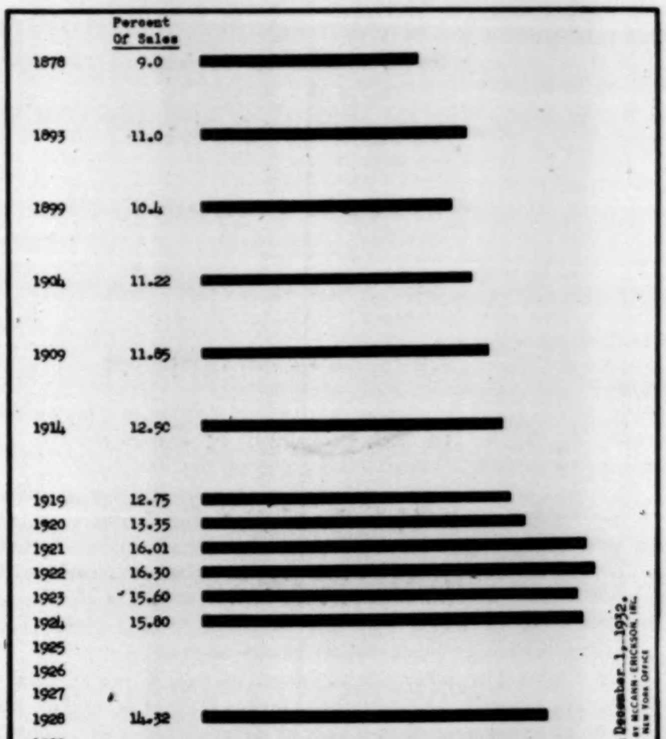

CHART VI. OPERATING EXPENSES OF WHOLESALE DRUGGISTS.

has been able to keep costs down as well as he has, indicates a high degree of efficiency rather than the reverse. And this development is typical of all trades. It gives us a new point of view with regard to the efficiency of the marketing system.

Although these samples of operating costs in six different trades constitute a very small part of all marketing activity, there is some reason to believe that they are fairly typical of what has been happening in all trades. They seem to indicate that outside of periods of depression there was a slight tendency for operating costs to decline from 1915 to 1919, and a slight tendency to increase from 1922 to 1929. The depression periods, during which costs (expressed as a percentage of dollar sales) have generally advanced, have apparently left costs on a slightly higher level than they were before the depressions. The net result has been an increase in operating costs since 1914, but no such increase as to justify the sensational statements that so many writers have made. Such increase as has taken place has been due in part, at least, to worthwhile and necessary improvements and extensions of service, and in some trades to the development of rather extravagant service features, some of which cannot be considered so necessary, but which have been encouraged by consumers. Consider, for example, the abuse of the privilege of returning goods.

This brief analysis is based on a few examples in wholesale and retail trades only. Manufacturers' selling costs have probably increased slightly, as indicated above. Transportation costs have also become a larger percentage of retail prices during the past twenty years. On the other hand, no attempt has been made to estimate the trend in actual marketing costs per ton of goods passing through distributive channels. Variations in selling costs, expressed as percentages of dollar sales, have been due partly to changing price levels, and it is a fair presumption that if it were possible to measure accurately the cost of marketing per unit of volume, we might find that marketing costs had not advanced at all, or may even have declined.

Assuming, however, that there has been a slight increase, it should be pointed out that this increase has not been due to any loss in efficiency among middlemen. In fact, we all know that the efficiency of wholesalers and retailers has been definitely on the upgrade. With the increases that have taken place in salaries, wages and other store expenses, it is surprising that cost ratios had not increased more than they did prior to 1929. Furthermore, the increase has been hardly sufficient, with perhaps a few exceptions, to have any important effect on consumers' prices or on the total spread between producers' prices and consumers' prices. As a matter of fact, net profits of middlemen should be taken into account in considering total spreads. These tended to decline during the twenties, and therefore largely offset any increase in operating costs.

It should not be inferred from this discussion that all marketing is efficient or that there is no room for the reduction of distribution costs. There have been important developments in the direction of large-scale merchandising, especially through chain-store organizations, which have reduced costs. The tendency for manufacturers to adopt the principle of selective selling through carefully chosen wholesalers, and the application of the same principle in selecting retailers, thereby cutting out small customers who are expensive to serve, also make for economy in distribution. And there are also many other things that are being done to increase efficiency in selling.

One of the important needs in marketing is careful analysis of selling expenses by commodity handled, by size of order and by customer. Companies that have made such analyses invariably find that they are losing money on a large proportion of their customers, and also that many individual orders are so small that they are handled at a loss. It frequently develops that approximately 80 per cent of manufacturers' and wholesalers' sales are made to approximately 20 per cent of their customers. The United States Department of Commerce has done constructive work both in developing methods of cost analysis and in spreading the gospel of the need of such analysis.

Paper presented before a meeting of the Taylor Society on Marketing Costs, arranged by the American Marketing Society, New York, December 9, 1932.

(Comment continued from page twenty-five)

ployment depends upon increased demand for consumer goods, which in turn depends upon increase of consumer purchasing power. We do not see high probability of *general increase of consumer purchasing power* arising out of the Act itself.

We must be realistic. An industry has formulated a code, and constituent managements like good citizens intend to obey that government. But beyond laying in materials against higher prices, they are not going to much expense of manufacture until they get orders; which means that the beneficent effects of shorter hours and higher wages will not be realized until there is a purchasing power of labor which creates demand.

It is doubtful whether the additional orders which are coming in as a result of industry's flight from the dollar are sufficient to prime more than a very moderate increase of activity. And if the superstructure of speculative inflation should collapse, the consequent fright might mean a net loss.

Just as during the war, grand strategy insisted that we continue to pursue defeat of the enemy with every resource as though the war were to last for years, even after there was evidence of a break in enemy strength; so now in this greater war, grand strategy dictates that every ounce of resource be thrown into our attack on unemployment as though there were no signs of re-employment. There should be an overwhelming simultaneous attack on industrial inertia by a rapid creation of *consumer purchasing power*. Dollars in the hands of the low income classes will create promptly the demand for which manufacturers are waiting in order to start a new activity regularized by the new articles of self-government.

We can see no reserve force to be thrown into the attack other than extraordinary spending for useful, durable social goods and for relief. While care should be exercised to avoid individual profiteering, graft and other such forms of waste, too great care regarding social waste should not destroy the essential requirement—speed, more speed, all possible speed. A dollar thrown in a hole in the ground where it can never be recovered is well spent if by the act of throwing a paralytic suddenly discovers that he can be active and productive again.

Such spending would be provided for by advances now out of assured future productivity, the obligation later to be met through a more rational tax system.

The constructive work of present leadership has been splendid. It has faced squarely in the right direction and big strides in the right direction have been taken. It has begun to piece together the broken fragments of a shattered secular trend. Already it has proved to be a leadership of that high quality called for by an article on another page. We urge more and equally bold steps in the same direction.

Observations On Management in the Soviet Union

Presented to a Meeting of the Taylor Society, New York, December 8, 1932

By **MARY VAN KLEECK**

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THE COMPLETION of the first four years of systematic and integrated national planning would make 1932 in the Soviet Union a time of absorbing interest to students of the science of management, even if there were to be no second Five Year Plan. Given the added fact that during these months the State Planning Commission—the Gosplan—has been actively at work in the day-to-day details involved in the making of the next plan, the value of the present as a moment for observation of procedure and method is more than doubled. The main purpose of my presentation is indeed to point out to you, as management engineers, the importance of studying the planned economy of the Soviet Union during this period of industrialization. Impressive as are the statistics of achievement, and important as are certain weaknesses and maladjustments which the administrators themselves are the first to recognize, the significant questions for the scientific management movement center, I believe, less in the actual facts regarding successes or failures than in the methods of making and administering a plan.

To narrow the question to a sharper focus, the process of making the second Five Year Plan and the changes in procedure as compared with the first, show what has been learned by experience since the five-year period began in the autumn of 1928. This kind of learning by experience is surely of the essence of progress in the science of management. More fundamental, however, than the method of planning, which is, after all, only one of the main functions of management, is the question, "How is socialized industry administered?" The making of a plan for a specified period in the Union of Soviet Socialist Republics is only a subdivision of that larger task of administration to which the Soviet Union committed itself when it adopted its new economic system.

At the risk of posing a question far too wide in scope even to outline superficially in a half hour after dinner, it is necessary to define my subject in these large terms, for in the United States, obviously, scientific management has had its rise and development and has achieved its results in the shop. When it has extended over a series of shops, it has nevertheless been limited to a single industry and to that part of a single industry which is under homogeneous ownership. It is significant that Mr. Sanford E. Thompson, in his presidential address this evening, on the influence of Scientific Management in American industry, has quite properly taken as his unit for inquiry the separate company or establishment.

If there were no contrasting scheme of management extending over all the industries of a nation, as in the U. S. S. R., this limitation to a single ownership in the United States would be so obvious as to require no comment. In the early days of development it has not been recognized as a severe limitation upon the work of the management engineer. It has been hoped that the Scientific Management movement would spread from shop to shop until finally it should dominate American industry. But note Mr. Thompson's report that in the present situation answers to his inquiries show that the emphasis is shifting from the management of production to "the science of marketing." Yet it is evident that when the single establishment approaches the problems of marketing it finds many factors in the situation which are quite beyond its control. In fact, of the four principles of Scientific Management—research, setting up of standards, control over application of standards and co-operation—the only one which can completely be applied to problems of distribution would appear to be research, and it must be research into what exists and has existed, rather than facts directed toward control of a predetermined procedure toward an accepted end.

By a curious coincidence, this distinction between research into the past and research directed toward a planned and controlled future is almost an exact quotation from the remarks of one of the officials in the central statistical office of the Soviet Union. That office has the title, Central Board of National Economic Accounting. Its chairman is V. V. Ossinsky, who headed the Soviet delegation at the World Social Economic Congress at Amsterdam in 1931. One of his staff explained to us that economic accounting there was for the purpose of providing a basis for a plan, whereas, as he expressed it, the statistical service of a capitalistic country confines itself to collection of facts about things as they are or have been.

The planned economy of the Soviet Union is different from the management of an individual enterprise, not merely in its extent but in its essence. Management in the U. S. S. R. is responsible for the harmonious functioning of the total national economy shaped toward a definite social end. The end may be defined as the creation of a new collective society based upon the socialization of industry. Thus by what may appear to management engineers in the United States as a paradox, management in the U. S. S. R. is not to be observed primarily in the workshop nor even in a series of workshops, but first in the sum total of the national economy and secondarily in the separate local units of operation. The whole is primary in the sense that the human body is primary and the cells secondary. One cannot fully understand the functioning of the human body, except as a whole, though one makes ever so minute analyses of the separate cells, one by one. But while defining the whole as primary, it is not to be understood that the local industrial unit in the U. S. S. R. is unimportant. On the contrary, the understanding of the whole gives greater rather than less importance to the cells or units of which it is composed.

I went to the Soviet Union with the idea of discovering whether the principles of American Scientific Management appeared, in the light of Soviet experience, to be universal or whether they belonged to the American scene, or at most to the characteristic forms of control and private ownership which have so far been associated with modern industry. It is always difficult to disentangle what are universal principles in distinction from their applications in the habits or practices peculiar to a particular environment. In the natural sciences laboratory experiments are familiar, in which certain conditions are varied in order to discover constant elements. In accordance with the same method, today, with two economic systems existing in the world, it is possible to observe, as in the laboratory, which elements in economic life are inseparable from a given system and which appear to possess the quality of universality.

Here again, however, the paradox must be emphasized from another angle. The management engineer from the United States who goes to Russia will naturally think that the place to study management is the shop. Yet in a sense he cannot find the essence of Soviet management there. Indeed, as you have probably been told by technical engineers returning from Russia, shop management has many weaknesses in the Soviet Union today. Those who know how long it takes to develop Scientific Management in any workplace and how slow has been the process of gaining recognition for the movement in the United States, can only be surprised that so great progress has been made in shop management in the Soviet Union in the brief period of fifteen years since the revolution, with the first ten of these disorganized by civil war, the intervention of western nations and the aftermath of these events. But more important is the fact that management in the U. S. S. R. is not to be studied in the local unit but in the total national economic life.

It is the subject as a whole, then—"How is socialized industry administered?"—that I must emphasize. But I have advisedly taken the title. "Observations on Management in the Soviet Union," in the laboratory sense of the word "observations." I give you, so to speak, a batch of notes in the hope that you will continue these notes either through first-hand observations in the Soviet Union or through critical and discriminating study through the reports of others. And let me urge that you apply to the reports of those who are writing on this subject today rigid tests of accuracy, for management in the Soviet Union has reached a stage of experience where the mere cursory inspection by travelers without experience in research or in management cannot discover the significant facts.

In seeking to make observations on the procedure of developing the second Five Year Plan, I narrowed the question further to the coal industry because I had had some opportunity in the past to observe conditions in the coal industry in the United States. Moreover, the theme which had been the center of interest in our studies in the coal industry, and to some degree in other industries, in the United States was "labor's participation in management," and in the U. S. S. R. this question as to the extent of centralization or decentralization and the share of the workers in the making and administration of a planned economy had an important place in my inquiry. In other words, I wanted to know where authority rests in the management of industry in the Soviet Union. Who makes decisions, and upon what basis of fact and knowledge?

Let us begin with these questions not in the offices of the Gosplan in Moscow, but in the mining region of the North Caucasus, in the Donetz Basin, which was expecting to produce 60 per cent of the coal required by the second Five Year Plan, or more than double the production planned for this region in the past five years. Following inspection in the mines and talks with the miners underground and in the communities where they live, we met in conference the chief engineer of the coal trust of the North Caucasus, representatives of the labor department and the planning department of the trust, the president of the trade union of the region, and the director and the chief engineer of the nearest mine. These were administrators, not planners; but as administrators they have a definite function to perform in assisting the State Planning Commission in gathering the material necessary for planning the coal industry. The regional administration which they represented is responsible directly to a division of the Council of People's Commissars in Moscow which has to do with the All-Union administration of heavy industry, including fuel. This All-Union administration functions through some eighteen trusts. Each trust has a chairman with one or two assistants constituting the board, and each is divided into several sections, including (1) planning, (2) industrial technique, equipment and the like, (3) labor, with a director in charge of each section.

The labor department has three main divisions: the first, the economic section, has to do with all questions of personnel, including selection of workers, wages and costs of production; the second has to do with what are called technical norms, including standards of output, length of working day, and all such questions as those involved in piecework, bonuses and the like; the third deals with housing and cultural matters, sanitation and the food supply.

The trust deals directly with the local industrial unit, which may be a single mine; or two or more mines near together may constitute a unit. Each local industrial unit has a director and a chief engineer. The North Caucasus trust is composed of eleven industrial units and a department for development of mines for future operation. It supervises also the management of a plant for manufacture and repair of underground equipment. Each industrial unit has a labor department with parallel functions to those already indicated for the labor department of the trust. The trust reaches only to the industrial unit and its board. Local mine management is the responsibility of the director and the chief engineer; that is, it rests in the local unit.

The relation of the local labor department to the labor department of the trust works two ways. Norms of output which are developed as standard must of course be applied under the constantly changing conditions involved in the digging of a mine. It is in the local industrial unit, and indeed in each pit, that norms or standards are first formulated. The labor department of the trust gathers them up in written form. There are textbooks or manuals which embody them. These then become the guidance of the local units, which, however, through the local labor department of the mine must see that they are maintained. Sometimes a condition arises which is not covered in the standard procedure, and in that event a staff member is sent from the labor department of the trust to deal with the miner at work underground and the labor department of the mine. The director of the local industrial unit corresponding to the superintendent of a mine in the United States, who, as already indicated, is appointed by the director of the trust, appoints all local directors, including the chief of the pit or the mine foreman. The director of the trust is in turn appointed by the board of the trust, who in turn are appointed by the administrative officials responsible to the Council of People's Commissars.

It was the president of the trade union who answered our question as to the relation of the trade union to the labor department. He described the structure of trade unions in the U. S. S. R. They are divided industrially. All workers around the mines belong to one union. The trade union has its regional or "rayon" headquarters, and each mine or industrial unit has its own trade-union committee. The workmen in the mine are divided into groups known as brigades, and each brigade has its own representative in the trade union.

Each local union or trade-union committee in a mine has sections which correspond to the labor department of the trust and to the labor department of the industrial unit, thus enabling the trust and the local management to function with the trade union on the following subjects: (1) planning and administration of wage rates and standards of output; (2) protection of living and working conditions, including management of central dining rooms and other matters having to do with the standard of living, in which the union either takes full responsibility or acts as a constant critic of the administration and a stimulus to its improvement; (3) cultural provisions; such as organization of "Red Corners" for reading and discussion, libraries, classes, and in general the activities of workers' clubs. A committee on conflicts deals with disputes. It includes two representatives of the union, a representative of the trust, and a direct representative of the workers, elected by them.

The function of the trade union in relation to all of these labor standards, in the words of its president, is "control." To one concerned with Scientific Management in the United States, this idea of control, voiced by the trade-union president in the exact meaning of Taylor's principles, was of great interest. He told us that the setting up of standards was regarded by the workers as a technical problem for experts, but that control in administering standards was a function in which the trade union had a responsible part. If workmen in a mine cannot agree regarding the application of standards set up by the technicians, an industrial conference is called, which includes the workmen involved, and they endeavor to reach an agreement. If this is impossible, the dispute goes to the conflict committee, and it may go higher if settlement at that stage is impossible. The next steps would be through national officials of the union on the one hand and representatives of the administration of heavy industry on the other hand, and possibly representatives of the Communist Party if the issue were of great importance.

Later in our conference, among the first questions put to us about American conditions was an inquiry by the president of the trade union, who asked: "In America, who controls standards of work or norms in the mines?" Those of you who are familiar with the sad lack of true Scientific Management in our mines and with the recent collapse of those methods of negotiation whereby the trade union participated in the application of standards, will readily understand the difficulty which we had in answering this question.

Of course all regional arrangements are subject to policies and conditions adopted for the industry as a whole in all regions. For instance, basic wage payments are determined by national agreement to which the trade union is a party. Labor laws administered by the Joint Commissariat of Labor set standards which must be observed in regional administration.

All of this information relates, of course, to the actual management and administration of the mines, not to the planning of the coal industry. We turned at this point to planning, and particularly to the role of the workers in it. How much do they share, for example, in the decision to more than double the output in the North Caucasus in the second Five Year Plan?

It was the trade-union president who immediately answered the question, followed by the chief engineer of the trust. The president of the union told us that the Five Year Plan is made by the working class itself. In each mine a temporary control committee is named, consisting of a representative of technicians, two representatives of the planning division of the administration, two representatives of the trade union, and six workers selected directly by the miners. This committee in each mine discusses what that mine can do in the next Five Year Plan and sends to the regional trust a report which in turn is conveyed by the trust to the State Planning Commission.

It may be a matter of interest to know the answer to our question as to what were the main outlines of the second Five Year Plan as actually suggested by these committees in the North Caucasus region. The plan at that moment was in process of development. The representative of planning of the North Caucasus trust answered the question, describing three main points of emphasis for the second five years:

1. In opening new mines, a kilometer of coal might formerly be left between two shafts. Pits in this region are now to be constructed so that 25 kilometers of coal will be worked out in the course of 60 to 65 years. By forecasting the amount of production per year, an equation can be worked out which determines the most effective area of coal to be taken out through one shaft, and hence the distance between shafts is estimated.

2. Mechanization is to be pushed as rapidly as possible, first, in order to solve the problem of shortage of labor, and secondly, in order to get the mines equipped for a permanently adequate rate of production. In this region at the present time the work of undercutting is 62 per cent mechanized; the conveyor or loading system, 40 per cent; and underground transportation, including emptying of cars at the tipple, only 3 or 4 per cent.

3. The main task is improvement of quality and utilization of by-products. In the first Five Year Plan in mining, as in other industries, quantity was the point of emphasis. To deal with the quality of coal, a new plant has been planned for preparation of coal, with the aim of handling six to eight million tons a year.

Incidentally, it may be said that the by-products of coal are richest in the Siberian mines, and work is going forward on such methods of preparation as will conserve them. In the North Caucasus region an experiment is under way to make gas by direct burning of coal in the ground, without extraction. Obviously in these two directions the work of research may at any moment result in far-reaching changes which will directly affect current plans for coal production. But these circumstances would be dealt with by the institutions of planning.

So much for the administration of the coal industry in the locality and the region and the relation of these administrative units to planning. It may be the clearest procedure now to shift the point of view to the offices in Moscow where the plan is made and administered for the Union as a whole. Before making that shift, however, it should be pointed out that the State Planning Commission has its regional representatives in the county or region planning office of the North Caucasus in Rostov, which is nearest to the coal mines visited by us. In that office the plans for the whole region for the mines and all inter-related industries, including agriculture, are studied for submission to the State Planning Commission in Moscow. The next unit of planning is the republic. For example, the Ukranian Republic makes for its own area a plan which must take account of the plan made for that portion of each industry, such as coal, which is within the boundaries of the constituent republic. These plans, both for the region as a unit and for the republic, are based upon the needs of their respective areas and represent the contribution of the area to the All-Union plan.

On the administrative side, as already pointed out, the coal trust is part of the Commissariat of Heavy Industry under the Council of People's Commissars, but the coal trust of the North Caucasus region, like every other trust, and its constituent industrial units have also been included in the conference called by the State Planning Commission in the preparation of the second Five Year Plan. This twofold task of administrative units acting as advisers in planning is an interesting aspect of management in the U. S. S. R. They act as advisers with reference to planning and then as administrators in carrying out the plan. They have a relationship and a scheme of organization and procedure which is functional for the industry as a whole and for related industries comprehended in the term "heavy industry," while at the same time they form part of all plans of locality, region and republic in which the constituent units of the mining industry are situated. A notable feature of the second Five Year Plan is this functioning of the smallest unit of operation in the making of the plan.

We may now trace the administration of the coal industry, including its advisory relation to planning, back to the offices of the Main Fuel Administration, which is part of the Commissariat of Heavy Industry existing only as an All-Union commissariat with no corresponding commissariats in the different republics. It is interesting to note that the administration of light industry is a joint union and republic responsibility. The immediate preoccupation of the Main Fuel Administration is not so much with the Five Year Plan as with yearly and quarterly plans within the Five Year Plan, and their fulfilment. The Fuel Administration deals not only with coal but with other types of fuel, including oil and its by-products, peat, wood and other combustibles. Other enterprises inform the Fuel Administration as to their need for coal. Daily telegrams keep the Moscow office informed of actual current needs for different kinds and quantities of coal in different industries; and daily reports from the mines give information as to output and transportation.

The relationship of the Main Fuel Administration to the State Planning Commission for the second Five Year Plan is twofold. First, general directives, showing the relation of the coal industry to other industries, are laid down by the Gosplan. Then the Main Fuel Administration and its trusts and local units work out the specific application of these general directives throughout their own operations. In conference in Moscow, the results of the work of these administrative units are brought together. Then the Gosplan makes the total plan and issues it as instructions, subject, however, to counterplans which are again brought in by the Main Fuel Administration and its trusts and local units and represent discussion all the way down the line to the local shop or mine committee of workmen and technicians. Finally, the Gosplan makes a formulation, "balancing" the industries in their inter-relationships and determining the investment of capital and other aspects of a unified financial plan. The last step is the adoption of the plan by the All-Union Congress of Soviets.

How this has worked with reference to the second Five Year Plan, was more clearly seen in the offices of the State Planning Commission in Moscow, which has a fuel division. Obviously, coal is only a part, though a vital one, of the whole planned economy. Here is illustrated a fundamental difference in concept as between planning as it is administered in the Soviet Union and as it is discussed in the United States. Planning conceived merely as a technique, can be carried out in different branches of industry and in different establishments. This, however, does not constitute a planned economy, which, in the nature of the idea, is a total and integrated whole. All branches of industry in the Soviet Union are planned at the same time.

Considering coal within this framework, the main object of a plan for fuel is the development of the metal industries. When this is adopted as the main objective, all other uses of fuel fall into place in terms of their relative importance. Their importance is determined in the light of the policy as to next steps in the development of the planned economy. The immediate objective is industrialization. Metal occupies the central position in this development. It does not take the major supply of coal, but the plan for coal is made after acceptance of the figures given by the metal industries.

This, then, is the first factor as to how much coal is required for industrialization (namely, how many tons of pig iron are needed and how much coal it takes to make them). The second factor is transportation. The third is development of electric power. These three are looked upon as the primary factors determining the need for coal.

Time does not permit elaboration of the various factors which must be considered in determining the total quantity and the regional distribution of production in an industry like mining. Suffice it so say that it involves, of course, technical questions, mechanization and productivity of labor on the one hand, and on the other hand housing and community development. It also involves consideration of location of contributing industries, location of consuming industries, and decision as to what is the most economical relationship between all these points of production and distribution and how much transportation is available.

Knowing the main directives which determine the need for coal and the limiting factors in producing it, the question then is, "Who reaches decisions?" We have noted the process of negotiation between the trust and the trade union in the region of the North Caucasus. Having worked out their conclusions as to what the different mines of the North Caucasus could produce, representatives of administration, of trade unions and of workers came to Moscow for an All-Union fuel conference which was held early in July, 1932. The purpose was to accumulate ideas and recommendations from all over the country for the second Five Year Plan. The number participating was 666, of whom 361 were engineers and 113 economists. Women in these two groups numbered seventeen. Fifty of the conferees were workers, all of them so-called shock brigaders or leaders who are stimulating production out of loyalty to the Communist Party and the socialist state. The remaining 142 were from miscellaneous groups. On the basis of this material, a first evaluation of the second Five Year Plan for fuel in general was in process of being made at the time of my interview.

These details, however, represent a balance which is not to be taken as fixed. In the words of the chief of the coal division of the Gosplan: "These balances are not fixed, because we grow, and growing we break the limits. The balance is simply the estimate." Three steps are involved in striking the balance, as already shown. First, a prospective figure reflects average possibilities. In order to increase these possibilities, a second step is taken, in the form of a yearly plan which is always higher than the Five Year Plan; and to increase this yearly plan, a third step is taken, in so-called counterplanning, which began in 1930. These counterplans are made at the workplaces, where possibilities of increase are more clearly seen than at the Gosplan. Thus the maximum production is not ordered from Moscow, but planned by the miners underground and the technicians with whom they are associated. It is they who are eager to accomplish more than the quotas which represent the average figure from the State Planning Commission. It is in this process of administration, involved in the carrying out of an estimated plan, that frequent changes occur which are sometimes misunderstood as indications of errors in advance estimates. To a management engineer, however, they are rather a reflection of the fact that the carrying out of the plan is a living process and not a mere record on paper.

The conference in connection with the coal industry was one of twenty-four held in Moscow during the summer of 1932. It is worth while to quote here decree No. 429 of the Council of People's Commissars, dated March 25, 1932. It begins thus:

> The successful fulfilment of the work connected with the preparation of the second Five Year Plan demands the active participation of all state trade unions and social organizations. It is necessary to draw into this work the widest masses of the workers and of the members of collective farms. In the drafting of the second Five Year Plan it is necessary to provide for the widest participation of all eminent scientists and engineers and scientific research organizations of the U. S. S. R., such as the Academy of Sciences, the Communist Academy, the Lenin Agricultural Academy, etc.

The Council of People's Commissars then decreed the steps to accomplish this purpose, which may be briefly summarized as follows:

1. The State Planning Commission was to supply outlines and methodological instruction to the All-Union commissariats, to the constituent republics and to the most important regions not later than April 1.

2. The All-Union commissariats were to present preliminary drafts of the control figures of the second Five Year Plan to the State Planning Commission in accordance with the outlines furnished by the Commission, not later than July 10, while constituent republics were to present these materials not later than July 20. On the basis of these materials, and the work of conferences to consider separate problems, the State Planning Commission was to present unified control figures to the Council of People's Commissars not later than August 20.

3. After these control figures had been considered by the Council of People's Commissars, the State Planning Commission was to prepare detailed instructions and quotas concerning the control figures for 1933 and for the second Five Year Plan. These were to be forwarded to the All-Union commissariats, republics and regions not later than September 1. The detailed figures for 1933 were to be prepared by the All-Union commissariats not later than October 20 and by the republics not later than November 1, while the preliminary plan for the development of the national economy was to be presented by these bodies to the State Planning Commission by the latter part of November.

4. Finally, the State Planning Commission was to present the plan for 1933 for the approval of the Council of People's Commissars of the U. S. S. R. by December 1, and the entire second Five Year Plan by January 1, to be formally adopted by the All-Union Congress of Soviets.

The special congresses and conferences referred to in these instructions were twenty-four in number, covering the following subjects:[1]

1. Allocation of productive forces
2. Electrification
3. Fuel
4. Chemistry and its application in the national economy
5. Development of geological and geodetic work during the second five-year period
6. Mechanization of difficult labor processes
7. Water economy
8. Specialization and co-operation in the machine-building industry
9. Organization of repair work and mechanical shops for the major branches of national economy
10. Reconstruction of the lumber industry
11. Technical reconstruction of the food and consumers'-goods industries
12. Reconstruction of transport
13. Transport, other than railway
14. Mechanization of agriculture
15. Feed cultivation, vegetable and fruit growing and the utilization of these products
16. Livestock breeding and utilization of products
17. Reorganization of construction work
18. Electrical communication
19. Trade turnover and its material base
20. Labor and personnel
21. Reorganization of municipal construction, city housing and living conditions
22. Problems of health preservation and proper utilization of leisure
23. Development of scientific research work in connection with the second Five Year Plan and the organization of a network of scientific research centers
24. Cultural work and the creation of the material base for the cultural revolution

Three sections of the decree then describe the procedure for co-operation with the State Planning Commission by the commissariats and by the republic and local planning organizations. For instance, each commissariat was to name one of its vice-commissars to supervise the work. The commissariats would receive outlines and instructions from the State Planning Commission and in turn transmit them to their subsidiary organizations, the industries, trusts, factories, etc., and the suggestion was made that the All-Union commissariats might call special conferences, drawing into these conferences scientific institutions and social organizations. The planning organizations of republics and regions were called upon to plan the economic and cultural development for their geographical areas, and they were charged with laying special stress upon plans "for the development of large cities." Finally, stress was laid upon the importance of labor's participation. The last two paragraphs of the decree are as follows:

1. All State, trade-union and social organizations are urged to start in immediately to draw the wide mass of workers into discussing and proposing solutions for problems connected with the second Five Year Plan.

2. The State Planning Commission, the All-Union commissariats and the Council of People's Commissars of the constituent republics are instructed to assure the wide participation of the All-Union council of trade unions, the central committees of trade unions and local trade-union organizations in all stages of the work in the preparation of the second Five Year Plan.

Thus it becomes clear that the procedure described to us in the North Caucasus as actually under way in the mines, is the standard procedure for all industries. Space does not permit an account of how this applies in agriculture or in factories, but the whole idea may be summed up by saying that management in the U. S. S. R. has for its goal an all-inclusive purpose to establish a new society; that the new society is to be a collective economy; that all who are able are expected to work, and that when the class divisions of the old economy have been eliminated through the process of socialization of industry all who are able to work will be expected to fulfil their function in the economic system, while in turn each will share in the collective goods and services; that the whole process is grounded in the Hegelian philosophy that the rational is the real and that the real is rational, and hence procedure and administration and all decisions connected with organized economic life must be based upon facts and a knowledge of natural law.

To a group of management engineers it hardly needs to be said that decisions, to be effective, must proceed from knowledge. Once the task has been accepted of developing a rational, planned economy, knowledge becomes the master for the reason that no other master could make a plan which would work. This delicate balancing of one industry in relation to another, this constant watching of results, cannot be accomplished by writing down figures representing decisions of one person. As one of the administrators in the State Planning Commission expressed it, all parts of the national economy are interdependent, but not from a single hand. Each decision creates the necessity for the next decision, and each must be in harmony with reality and rational because based upon natural law. Gradually the dictatorship of a revolutionary period gives place, through the administrative process, to the authority of knowledge which is the fruit of science.

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[1] In connection with this decree, reference should be made to the resolution adopted at the sixteenth convention of the Communist Party, outlining an industrial standardization program for 1932 and calling for "a maximum of control by standardization of all agricultural and industrial production." The resolutions recognized that provision must be made for training of standardization workers and that in carrying it out co-operation must be secured from groups of workers, production councils, organizations of inventors, "wall-newspaper" staffs (referring to publications which we would call house organs but of which there is only one copy, posted on the bulletin board). These appeared in condensed translation in the ASA *Bulletin* of January, 1932.

Thus far, no analysis has been given of the political institutions within which planning and administration of socialized industry are carried on. This also is a very interesting aspect of the new economic system in the Soviet Union. As the primary purpose of the Communist state is the organization of economic life, the political forms must be adapted to the administration of socialized industry. The nucleus of the new political organization is the Soviet or council or shop committee. In the smallest local unit the workers elect delegates to the Soviet, and thus step by step is built up the central authority, the All-Union Congress of Soviets, which is directly composed of the workers' representatives in the different branches of industry. Out of the Soviet grow the institutions for planning and administration.

Of course it is known that the Soviet Union is made up of constituent republics, just as the United States consists of states, with relationships to be worked out between federal and state governments. In the U. S. S. R., the administrative organization is centered in the Council of People's Commissars, under which function commissariats of three main kinds: the People's Commissariats of the Union, with no corresponding bodies in the constituent republics, such as the Commissariat of Heavy Industry; the republic commissariats with no corresponding All-Union bodies, such as Education and Health; and the Joint Commissariats, such as Agriculture and Light Industry. In these plans of administration and in the distinction between what is regional and what is of All-Union importance, is another field of study of great interest in management research.

Of course a planned economy must be a record-keeping economy. Reference has already been made to the Central Board of National Economic Accounting. It centralizes control and planning of statistics, but much of the actual task of collection is in the different administrative agencies in the trusts or the republics or the regions. Moreover, in factories and mines everywhere one finds records of accomplishment, many of which are individualized, showing not only the output of a given department and its relation to the quota, but also the progress record of individuals.

These progress records of individuals are of course part of the whole subject of incentives. Naturally the purpose of building a new society which is to be a workers' republic is in itself an incentive for the workers. Added to this general motive, however, is the reward given to individuals who make notable contributions. For example, we visited the agricultural machine factory in Rostov just after it had completed a heavy task of building the required number of combines or reaper-thresher machines. After a tremendous spurt of energy which finished the task, the workers took their vacations. All workers in Russia have vacations with pay. The plant newspaper, of which we received a copy, when I took it home and had it translated was found to contain a decree signed by Joseph Stalin as Secretary of the Communist Party, naming, out of the mass of 17,000 workers, individuals who deserved rewards and describing their particular achievements. Sometimes the reward may be a scholarship for study, and sometimes it is a group reward, such as the building of a workers' club. On the other hand, slackers may be held up to derision. One finds, for example, in the Park for Culture and Rest in Moscow bronze busts commemorating the contributions of individual workers to economic progress, while also there are caricatures of those who have obstructed progress. Thus humor is included among the incentives.

It would of course be pertinent in observations of management in the Soviet Union to analyze the actual figures of output under the first Five Year Plan. Among the many illustrative figures which are available, probably the most significant is the fact that 81.5 per cent of the national income in 1931 was derived from the socialized sector of industry, as compared with 52.7 per cent in 1928, and that 1932, when finished, will probably be found to have 91 per cent of the national income from socialized industry. During that period there has been an increase in the national income. Measured in billions of rubles at 1926-27 prices, the national income in 1931 was 38.1 as compared with 26.8 in 1928, with an estimated figure of 49.7 for 1932-33.

First, these figures reflect the fact that the Soviet Union is accomplishing its industrialization by the accumulation of its own capital for production. Naturally this is achieved by self-denial. Attention has had to be concentrated upon production goods. The people have had to do without many consumption goods. There is not enough food. The peasants have more money than ever before to spend, but goods which they wish to buy are not in the market. The difficulties are great, but the important point is that all of these are problems to which the institutions of administration and planning are giving attention. The second Five Year Plan will aim to increase consumers' goods and to eliminate inefficiencies in distribution, while continuing emphasis upon industrialization.

The second fact of great significance, the fact that so large a proportion of the national income is derived from the socialized sector, is important in any study of management. Management in the Soviet Union has the responsibility and the power to control this proportion of the national income and to direct it as an instrument of the economic plan. This power to distribute the national income enables the Soviet Union to determine what the standards of living of its people shall be, and to raise them as productive capacity increases.

The universality of the principles of Scientific Management emerges as one observes their applicability in the new economic system of the Soviet Union. The outstanding difference is that in the United States limits are set to the application of knowledge because the area of control through ownership is not comprehensive enough to plan and control the relationships of factors which are essentially inter-related. The extent of the socialized control of the Soviet Union has given to Scientific Management in that country a scope which is new in the history of modern industry. It will take time to perfect its application in the Soviet Union to the lowest industrial unit with the completeness and precision already attained in the best managed shops in the United States. But meanwhile the range of problems which is being presented in the U. S. S. R. by this large-scale integration of industries reaches far beyond the widest stretch of the imagination of the management engineer in America. Here Scientific Management is tied to a hitchingpost, when it should be free to follow as far as electricity can carry it.

Returning to the United States, I found among my books a pamphlet which I had previously overlooked. It was a speech made by Lenin in Moscow in 1918, entitled "The Soviets at Work," in which he said: "We, the Bolshevik party, have *convinced* Russia. We have *won* Russia from the rich for the poor, from the exploiters for the toilers. And now it is up to us to *manage* Russia."

Lenin considered the political organization of a workers' republic insufficient. The workers must learn to manage and must base their management on "universal accounting and control of production and distribution." And he declared: "We should try out every scientific and progressive suggestion of the Taylor system. Successful management depends on the ability for *practical organization.*"

Applied Scientific Management

IV. Periodic Financial Reports and Their Uses

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THE REPORTS on plant operations and other major functions of the business are also used by the men at the head of these activities, a point I neglected to mention in my last article. This is also true of all the other reports or portions of reports. In this article I propose to deal principally with the reports which, under a system of Scientific Management, are a product of the accounting system.

It may not be amiss to emphasize again at this point the fact that accounting should be regarded chiefly as a tool of management. Few managers fully appreciate its possibilities in this respect. Most of them accept accounting reports as they are presented by accountants, whether they present facts in a practical and usable fashion or not. They feel that accounting is something shrouded in mystery and that it would be presumptious and impious to question the figures presented. It was the apparent lack of common sense in accounting, together with the effort on the part of accountants to shroud their art in mystery, that led to Taylor's decision to get to the bottom of the whole affair and develop a system which even a benighted engineer and manager could understand.

In discussing the periodic reports which the accounting system should provide as a matter of routine, may I again stress the great value of a well worked out classification along the lines described in my article in the December issue of the BULLETIN OF THE TAYLOR SOCIETY.

These reports or statements would include the following:

1. An analysis of expenses.
2. A statement of the cost of products completed during the period.
3. An income or profit-and-loss statement which analyzes revenue, from sales and other sources, and gives the resultant profit or loss both quantitatively and qualitatively.
4. A balance sheet for the business which shows the increases or decreases in the various classes of assets and liabilities and gives a sufficient analysis to enable one, through what Taylor called the "exception principle," to place one's finger on those items which manifestly call for further analysis and investigation. The exception principle and its uses in connection with these reports will, I hope, be made clear as we go on with the discussion.

These periodic statements should be made up monthly as a part of the routine operation of the company's accounting system. Not only should they serve the general manager and other major executives as tools of management, but, with the exception of the general-ledger balance sheet, they should serve in the accounting system as the media for the monthly closing of the books. They should be so set up as to assist the management, without wasting time on confusing masses of detail, in obtaining a true and complete picture of every activity of the business. By comparison with previous periods, as well as with "budget" or other established standards, they should provide an accurate measure of performance. As Taylor expressed it in an early description of his accounting system, the object should be "to classify and record accurately and systematically all of the assets and liabilities of the company; to record all transactions of the company and classify them in such a manner as to enable those engaged in the business to obtain frequent and exact information as to the financial side of all departments of their business. . . . At the end of the month statements should be made out showing a balance sheet of the books . . . and such other reports as may be necessary to indicate either an improvement . . . or the reverse, and to enable the managers to locate and indicate the cause of the improvement or the reverse."

As a background for discussion of the monthly financial statements and their use I believe it will be helpful to have in mind a few very simple rules which I have found to be invaluable in managing a business. If they are adhered to rigorously, the desired result must follow as inevitably as "the night the day." They are:

1. Determine a proper rate of profit for the business, and secure a governing figure for expense by deducting this amount from the sales value of orders received.
2. In detail, see that the company's expenditures, as represented by obligations incurred, including payrolls, and by the registered accounts payable, also including payrolls, are not in excess of the governing figure mentioned, i.e., the sales value of orders received less the rate of profit. With the exception of more or less fixed items, these things are easy to keep track of and control if the management has the fortitude to decide and act. In too many cases, however, managers procrastinate and temporize.
3. Have all profits show up in cash or its equivalent rather than in the form of increased inventories or new equipment. In other words, have your money before you allow it to be spent.
4. Still another rule is to *keep out of debt*.

In applying these rules, it is only necessary to know: (1) the proportion of both direct and indirect hourly wages to the sales value of the company's product as a whole; (2) the same thing for all purchased materials used either in the manufactured product or as supplies; (3) the same for all salaries; (4) the same for all controllable items of expense which have been referred to as "miscellaneous" in their nature. With knowledge of what these components of cost should be and what they actually are, it is only necessary for the general manager, if he finds they are not in accord, to issue the required orders to bring them in line and *see that these orders are carried out*. Too often such action is deferred in the hope that conditions will improve; too often the general manager permits himself to be persuaded by his subordinates that nothing can be done or that it would be disastrous to take the action indicated. Wage payrolls can be controlled either by reductions in force or by shortening hours and thus made to bear the proper proportion to the prevailing sales volume. This form of curtailment is usually the first to be considered and frequently the only one. It is often neglected, however, until conditions become so bad that sudden and drastic action becomes necessary. In a company having the reports I have described in this and my preceding article the need for such action is foreseen and brought about in a more gradual, and consequently less shocking, manner.

In the matter of material purchases, instructions may be issued to the Purchasing Department to limit the placing of orders in proportion to the material cost of the products sold. Salaries offer the greatest difficulties as to control. Department heads will insist that every one of their employes is needed, that the falling off in work to be done is not proportionate to the falling off in business. And the same resistance will be found in respect to controllable items of expense referred to under the heading "miscellaneous," such as advertising salesmen's expenses, telegraph, telephone and postage charges, etc. Determination, based on conviction and often coupled with a certain unreasonableness on the part of the general manager, will accomplish what may appear like the impossible.

Let us now consider these reports in the order listed.

The Monthly Analysis of Expense

This statement sets forth for the period, the complete cost of operating the business, including all payrolls for wages and salaries, whether directly chargeable to products or not; the cost of all materials used, whether entering into the company's products or used as supplies incident to the operation of the various departments of the business, and all other charges for services rendered by outside agencies, including taxes, interest, depreciation, etc. This report should include three main sections:

1. *Indirect Expenses.* These cover items which are not directly chargeable to specific lots or orders for products in process of manufacture and do not increase the permanent value of the plant. Costs of such items or activities are referred to in my article in the December 1932 BULLETIN OF THE TAYLOR SOCIETY (p. 232) under Section I of the classification. The major divisions correspond to those set forth in paragraphs A, B, C, D and E on page 233.

2. *Direct Expenses.* These cover costs chargeable directly to products in process of manufacture during the period. This includes wages, materials and other items of expenses, such as work done on a product by outside parties. These direct expenses for products or work in process would be set up in the report in accordance with the classification under Section II in the article mentioned above.

3. *Additions to Capital Accounts.* These cover wages, materials and any other expenses directly chargeable to capital accounts, i.e., items which add to the permanent value of the company's plant and equipment. See Section IV in the article mentioned.

The forms on which this and other regular statements are presented should be so designed as to fold to letter size (8½ by 11 inches) with a one-inch margin on the left for binding. A sheet 16 inches wide by 11 inches deep will usually be found satisfactory. Printed forms with both horizontal and vertical rulings may possibly offer a little more difficulty in typing but are vastly superior from the user's point of view to blank-paper reports. Green and brown inks make the best rules and it is helpful if every fourth horizontal line is made slightly heavier, as a guide in following the figures pertaining to an item across the page. These are small but important details. It is generally desirable to have a set of each month's reports made up and neatly bound for each major executive. These several copies should all be made by a suitable duplicating process from a single carefully checked original. While special cases may require other treatment, the following vertical ruling has been found, with little variation, to meet the needs of a wide variety of businesses:

First Column—Symbol of the expense class or subdivision thereof. At the beginning a descriptive column may be necessary in addition to the symbol. When it is used at the start it generally soon falls into disuse as the users of the report become familiar with the classification. It will be referred to for definition when the meaning of the symbol is not known.

Second Column—Wages for the period, i.e., compensation paid to all the employes on the hourly payroll, showing the amounts chargeable against each of the classes of expense and their subdivisions. As the amount of payroll for each period (usually each week) is charged, pending distribution, to the accounts for departmental expenses, to products (work in process) and to capital accounts, the sum of all the entries in this second column should agree with the debits to payroll account during the period.

Third Column—Salaries for the period, showing, as in the case of wages, the amounts chargeable against the various expense accounts and their subdivisions. The sum of these entries should agree with the salary payrolls (or the total of all salary vouchers) for the period.

Fourth Column—Wages and Salaries combined, as charged against each account (Column 2 plus Column 3).

Fifth Column—Stores (purchased materials) used and chargeable to the various expense and other accounts during the period. The sum of these entries must agree with the amount credited to stores (purchased materials inventory) account for the period.

(If the company's own products may be used as supplies by certain departments and charged to expense, there should be an additional column headed "Worked Material Stores Used.")

Sixth Column—Miscellaneous charges, i.e., those not falling under any of the foregoing heads. These would include such things as services rendered by outside agencies, insurance, interest, taxes, dues and contributions, purchased power, water, depreciation, etc.

Seventh Column—Total of all the charges (the sum of the entries on each line) in Columns 4, 5 and 6.

Eighth Column—Total of all charges against each expense and other account *for the previous period.*

Ninth Column—Average per period charged against each account *for the year to date.*

Tenth Column—Averages for the corresponding periods *during the preceding year.*

Eleventh Column—Budget or expense standards for each class of expense and subdivision thereof, based upon the rate of operation for the period in question.

It should of course be understood that for certain businesses comparisons different from those indicated for Columns 8, 9 and 10 might be more useful, or even that additional comparisons might be valuable. For example, it might be advantageous to show averages for the past year, the past six months or the previous quarter. In addition to the budget figures for the current month, it might be desirable to show these figures in such a manner as to permit comparison with the average for the year to date.

In setting up this report it is desirable to show totals at the top rather than at the foot of a column of figures, as is usually the custom. For example, the head of the sheet would show the grand total of all expenses, the first thing in which the general manager is interested. Under this would appear the various major classes of expense, set up in accordance with the classification.

For the general manager's use the first sheet of this report should show a summary of the company's expenses, together with certain information which will help him in considering the figures and reaching the proper conclusions as to appropriate action. This should include such things as sales for the period —both booked and shipped; purchases of materials, etc. The summary of expenses for the period should cover only: (1) the grand total of all expenses; (2) the total of indirect expenses; (3) the total of direct expenses for work on products; (4) the total of direct expenses chargeable to capital accounts.

Supporting totals for the major divisions of the business as outlined in the article on Classification should be shown on the summary sheet, which should present the same arrangement of columns as those described for the detailed supporting sheets. On these should be shown in the proper order each of the major divisions of expense, with totals at the top and supporting details following, in accordance with the classification.

A glance across the top line of this report might satisfy the general manager that everything was as it should be, i.e., that total expenses were in accord with the budget. This would be an unwise conclusion, however, as some one or two departments of the business might, through an unusual circumstance, show abnormally low expenses while others showed very high expenses. Yet the total might make a satisfactory appearance. He should at least carefully examine the figures on each major division shown on the summary sheet, and keep in mind as a background the information mentioned in a previous paragraph on the state of the business. He should also have in mind the proper percentages of the sales dollar for wages, salaries, materials, etc.

In theory it should only be necessary for the general manager to concern himself further with those details which appear to be abnormal as compared with previous periods. In all such cases he should continue his investigation down to the details in the division or subdivision where the irregularity exists. As a matter of fact when expenses and the activities they represent are properly classified, the task of scrutinizing the information presented is so facilitated that the chief executive may well afford the time to examine all the details. As Taylor pointed out in "Shop Management," these reports should have been gone over by an assistant who would have appended to it the answers to such questions as the figures might raise in the general manager's mind. In a modern organization this "assistant" would be the comptroller, or if the company were too small, the chief accountant. The facts presented in this report give the general manager the intelligence and confidence to discuss the expenses of the several branches of the business with the men in charge of these branches.

Statement of Cost of Finished Products

This report calls for little discussion. As the name implies, it simply shows each lot of product finished during the period, grouped in accordance with the product classification. By columns, it shows the quantity produced, the total cost of the lot or production order, the cost per unit. For purposes of comparison, it should show the unit cost of the preceding lot and the date of its completion, the same for the best previous period and the standard cost. In the case of special work this would be an estimated cost. If it is desired, the cost may be shown under headings for wages, materials and manufacturing indirect expense as well as in total. This is usually not necessary, however, since under a system of Scientific Management performance is checked with standards at each stage of the way. This report, apart from its service in the matter of accounting, is primarily of interest to the works manager. It is important, however, that the general manager look it over and discuss such exceptions as he thinks important with the works manager.

This report serves the accounting purpose of crediting the accounts of "work in process" and debiting the "finished product stores" accounts in the general books.

It also supplies a check on the rate of operation in addition to that furnished by the analysis of expense. For example, if we know the proportion of manufacturing cost to selling price we may, by converting the cost of goods produced into sales values, see whether these values exceed or fall short of the rate of sales.

The Income or Profit and Loss Statement

A complete statement of sales of the company's products for the period should be set up on this report, together with comparative figures for sales during the previous period. These figures should be set up in columns somewhat as follows:

1. *This Month*: First column—quantity sold; second column—invoiced value (selling price) of goods sold; third column—cost of goods sold. This should include the manufacturing cost (direct labor, material and manufacturing indirect or shop expense) and, in addition, selling expense, general business or administrative expense, research and development expense and any other items which are not distributed to the cost of products when manufactured. The fourth column should give the net profit or loss.

2. *Last Month*: The same columnar arrangement.

3. *Average for the Year to Date*: The same columnar arrangement.

4. *The Same Month Last Year*: The same columnar arrangement.

5. *Average for the Same Period Last Year*: The same columnar arrangement.

In addition to the columns described, it is desirable to have one more in which carefully arrived at sales budget or quota figures are shown. Unless these figures have been arrived at through market analysis for each class of product as well as for total sales, however, they had better be omitted.

In making up this report the total revenue from all sources should be shown at the top. This should be followed by the total from sales of merchandise, and the total from other sources, such as interest on investments, rents, etc. Following these, on the first sheet, should be a summary showing income from each of the principal classes of company products. These should be set up in accordance with the product classification. Back of this should be sheets showing a breakdown of each of these principle product classes supported by a further breakdown into subclasses, and if desirable a still further breakdown showing additional details even down to individual items.

For accounting purposes, the figure representing revenue from sales or other sources should agree with the debits to accounts receivable and the credits to a merchandise sales or other revenue account through a journal or other register of accounts receivable. Figures in the cost column represent credits to finished product stores or other accounts concerned and debits to merchandise sales or other revenue accounts. The figures in the profit or loss column, which show the difference between cost and revenue, are debited or credited, as the case may be, to the income or profit and loss account.

The principal values of this report are these:

1. It shows increases or decreases in the sale of the company's products as a whole, of the various classes of product, and of individual items within a given class.

2. It clearly indicates those classes which are profitable and those which are not. In other words, it shows the relative profitability, or the reverse, of the various classes of products and their component items.

The most effective use of this report, in my opinion, may be achieved by a series of conferences of the major executives concerned, called by the general manager and presided over by him, to consider: (1) those classes of product and their component items which fail to show a normal rate of profit, and (2) those classes, or their components, which show a satisfactory rate of profit but an unsatisfactory volume of sales. These conferences should be attended by the sales manager, the works manager, the executive responsible for design of product, the head of the research and development department, and the man in charge of market research. Someone should be delegated to act as secretary of these meetings to see that any action decided upon is covered by a memorandum to the party responsible for carrying out the decision. It should also be the duty of the secretary to follow progress and report to the general manager at intervals. In other words, safeguards must be set up to assure the carrying out of decisions which, without them, often die aborning.

In the case of those products which do not show a satisfactory margin of profit, the following questions should be asked, and answered on a basis of *actual facts*:

1. Can the selling price be increased. If not, why not?
2. Can the cost of manufacture be lowered? If it can be, what would be involved? If not, why not?
3. What improvement can be made in the design of the product, either with a view to bringing the cost down to a point which will make it profitable, or to raising its quality to a point which will make it attractive to the customer at a price which will yield a satisfactory profit?

As a rule the response to these questions, at least in the beginning, will be that "nothing can be done about it." Here it is up to the general manager to take the stand that nothing is impossible and to inspire his associates with the belief that it is possible to effect improvement if they go at the problems with determination and intelligence. It is surprising how often the seemingly impossible may be accomplished in such cases.

In the case of profitable products which show too small a volume of sales, the following questions should be asked:

1. What is the potential market?
2. Are we getting our share of it? If not, why not?
3. Are there possibilities of increasing the market through the development of new uses?

I might expand indefinitely at this point, but I believe I have given enough detail to furnish plenty of food for thought.

The General Ledger Balance Sheet

This report sets forth each month in a logical grouping the company's assets and liabilities. In addition to the figures for the current month, it should show comparative figures for the preceding month, for the first of the year and for the end of the previous quarter. The top of the sheet should carry the following summary:

1. Plant and other fixed assets.
2. Materials, including manufactured products, in stores and in process of manufacture.
3. Cash and other quick assets.
4. Unapportioned expenses, including accounts in suspense and deferred charges.
5. Miscellaneous assets not included in any of the foregoing groups.

The total of these groups should be shown at the top of the sheet. Below this summary there should be a section for each of these groups, and under the total for each group its subdivisions should be shown. For example, under the first group would be shown:

1. Machinery and other appliances, including fixtures and furniture; in short, all equipment
2. Patents
3. Real estate
4. Buildings

Under the second these items would appear:

1. Stores or purchased materials
2. Merchandise stores, i.e., finished salable products in stock
3. Worked material stores, i.e., manufactured stock parts in stock
4. Work in process of manufacture

Under the third there would be:

1. Cash
2. Accounts receivable
3. Notes receivable
4. Cash advances to individuals and companies
5. Investments

The company's liabilities are set up in similar manner in the general ledger balance sheet. At the top there should be a summary showing all the liabilities classified and grouped somewhat as follows:

1. Liabilities to stockholders
2. External liabilities
3. Expenses apportioned in advance, i.e., charged in advance of actually incurring a liability, and accrued obligations not yet due
4. Miscellaneous liabilities not falling under any other class
5. Income or profit and loss

As in the case of assets there should be sections below showing the subdivisions of each of these principal groups. The nature of these subdivisions is so obvious as to make further explanation unnecessary.

In addition to the sheet just described, the general ledger balance sheet should be accompanied by:

1. A sheet showing the increases or decreases in various assets and liabilities. These are simply the differences between the figures for the current month and those shown in the comparative columns for the previous dates. They account for and equal the figures representing the profit or loss for the period in question. A knowledge of these figures is of considerable importance to the general manager if he is to exercise control. For example, a business may show a nice profit and yet get into financial difficulties through inventory inflation, poor collection of accounts or notes receivable, or premature expenditure for new equipment or plant improvement.
2. An analysis of the increases or decreases in the various classes of purchased and worked materials that make up the company's inventory. These should be set up in accordance with the classification and serve the general manager as a basis for control of inventories.
3. A list of all overdue accounts and notes receivable, showing the balance in each account the previous month, the amount added in new accounts and the amount collected during the month, and the remaining balance.

While all the information conveyed in the general ledger balance sheet, together with the memoranda described, is of interest to the general manager in his conduct of the company's affairs, that portion which gives the facts on inventories, both in stock and in process of manufacture, is probably of the greatest importance. In this connection I should like to point to a circumstance little understood by managers. This is that inventories may be made to accord with rates of sales, or made to rise or fall at will, by the simple expedient of fixing the amounts of payrolls and materials purchased. All that the general manager needs to do to control inventories is to issue the appropriate orders and *see that they are carried out.*

This is the fourth of a series of articles which began in the October issue of the Bulletin of the Taylor Society.

Gilbrethiana

At the Newark College of Engineering is a "Gilbreth Room" dedicated to the memory of Frank B. Gilbreth. The College would appreciate the gift or deposit of papers, pictures, instruments and other Gilbrethiana, as well as other works on Scientific Management and human relations.

The Call for Leadership

A Challenge to Business and to Politics

By **H. S. PERSON**

Managing Director, Taylor Society, New York

IT APPEARS unnecessary to undertake a comprehensive discussion of the nature of leadership. It may be assumed that we have a common understanding of its nature sufficiently definite to serve the purpose of the evening. Yet because reference to a *call* for leadership implies that the type of leadership in mind has not been realized, it is desirable to specify what that type is.

Types of Leadership

For our purpose we may first divide leaders into two classes:

1. Leaders of research and thought.
2. Leaders of action as distinguished from leaders of research and thought. The cry today is for leaders of action who can catch up with leaders of thought.

Then we may divide leaders of action into two classes:

1. Those numerous leaders who are essential to carrying on the conventions and customs of life. Such leaders are never wanting, although their qualities may vary greatly. Social processes could not go on without them. Every institution must have its leader; every group its leader. Some of these leaders simply serve to co-ordinate the divided labors through which established patterns of activity are carried on. Others among these, and they are many, lead the way to improvement or at least change of conventions and customs. Industry has its Fords; retailing its Woolworths; politics its La Follettes; education its Deweys; religion its Fosdicks. Many of these leaders are noteworthy also as leaders of thought; some of them may start forces which in the long run profoundly modify institutions. Their aggregate influence is enormous. Yet we are not this evening concerned with the type of leadership which leads only with respect to conventional and particular aspects of culture.
2. Those occasional outstanding leaders of action who arise in times of social crisis involving collective aims, morals and the direction of the cultural trend of an entire society—Caesar, Charlemagne, Napoleon, Bismark, Lenin and Ghandi, Washington and Lincoln. Such are the leaders who appear at a time of dislocation of the secular trend; geniuses of action who perceive the nature of the dislocation and are able to gather up the scattered fragments and reassemble them into a new, functioning, organic whole which utilizes the very forces that had caused the secular break. It is with leadership of this type that we are concerned tonight because it is for leadership of this type that there is a call in the United States today.

Assuming for the moment that the state of our affairs constitutes a call for such leadership, let us ask ourselves why a leadership is so slow in responding to the call; why perhaps affairs must become worse and the call stronger before the necessary leadership emerges.

Rarity of Crisis Leadership

Crisis leadership is rare the world over, but in the United States it is particularly difficult to produce, and one may fear that this difficulty is increasing. There are undoubtedly many reasons for this, among which the following may be noted:

1. A century dominated by pioneering, opportunistic exploitation of the vast resources of a continent has indicated one consistent major line of policy and conduct for the United States. Only one real crisis has heretofore appeared—the conflict between a feudalism and a nascent industrialism which culminated in the Civil War. This conflict found its leaders who performed their tasks and disappeared. Since then the trend has been one of easy development of the new industrialism, in which because of no call for its exercise, the capacity for crisis leadership has atrophied.

I am not unmindful of Woodrow Wilson, the greatest among our leaders since Lincoln, but the crisis through which he led was minor compared to that which confronted Lincoln or that which now confronts us; and in its later stage of intensification following the armistice new phases of the crisis presented problems too difficult for this exhausted leader to solve.

2. The relatively high standard of living realized by all social classes as a result of this appropriation and exploitation of abundant resources has led to an intellectual and moral softness, a complacent satisfaction with things as they are, which dims the capacity for perception of the significance of trends and even for perception of a cultural crisis during the early stages of its appearance.
3. The size of the United States, the diversity of resources, and the regional characteristics of its basic livelihood activities have tended to focus individual attention on local interests and problems instead of on national interests and problems, and few of us have become able to think on a scale comparable to the scale of the forces which have led to crisis.
4. The influence of political democracy has been against the emergence of leaders. We are the first great democracy in history, and we are politically young and inexperienced. We have not yet learned how to adjust democracy to our developed, complicated needs, and among other things to our need for leadership. In our democracy so-called leadership has come generally to consist in ascertaining the trend of mass emotion and uninformed opinion and then assuming a position of "leadership" of such trends. While leadership cannot go against mass trends, it is not genuine leadership if it merely follows and is distinguished only because it has run out in front; like the dog which is always ahead of its master but also always has a weather eye for the direction in which its master intends to go. True leadership must *risk* possessions and limbs and life in persuading the mass to modify its course, whereas our so-called leaderships are chiefly concerned with *protecting* possessions, limbs and life. We observe a humiliating illustration of this in connection with those sectors of our problem pertaining to war debts, and to modification of policy concerning the manufacture and sale of intoxicating liquors. Attention has recently been called to the fact that Senator Cummins at the time of the first loan to our allies pleaded that it be made an outright contribution and not a loan; that there were moral grounds for making it a contribution and practical grounds for not making it a loan. He prophesied that a loan would eventually come back to plague us. In the face of fulfilment of his prophesy we appear no wiser than we were then, and present a case of increasingly stupid ineptitude.
5. The political institutions of the United States, espe-

cially our particular type of federal government, tend perhaps even more than democracy *per se* to deprive us of real leadership on the national plane. Our form of federal government, in contrast for instance to the Canadian, emphasizes the rights of states. This on the one hand intensifies localism of interests, as has been already noted. On the other hand, it affords entrance into the national area and access to opportunities for national leadership only when one has first come to identify himself with local interests and leadership and has become crystallized in that respect. Furthermore, continuance of service and of opportunity in the national area is contingent on continued representation of local interests and viewpoints. We elect none of our national servants at large; even the President is chosen by discovering who can best convince the greater number of localities that he will represent their respective particular interests. And in the organization of the legislative and executive branches of the government we have set up a system of checks and balances which stifles leadership. How through such political channels can we secure leaders who have a truly collective point of view?

6. The nature of our industrial institutions has become such as to render almost impossible the emergence from that source of leadership with a collective point of view. The corporate form of organization has become dominant, and huge corporations have become numerous. When a young man enters into the service of a corporation he enters into a bureaucracy which has institutional ideals, aims and purposes; and a powerful though perhaps unwritten institutional code. Generally he realizes little opportunity for individuality and self-expression except insofar as these conform strictly to the institutional aims and bureaucratic code. The consequence is that few individuals in the service of corporations can, while they are still young and plastic, break through the restricting shell and stand forth as leaders unrestrained by particular interests. Nevertheless, before I am finished, I shall suggest that we must first look to industry for leadership at the present stage of our crisis.

7. The educational system of the United States has not been such as to promote that type of leadership which we have been describing as desirable in a democracy. At the present moment, however, there is some sign that the product of this system is becoming more realistic and independent in its thinking than has been the case in the last half century. The chaotic state of the environment in which the young and intellectually plastic find themselves in ever increasing numbers is perhaps producing its effects. There are evidences of questioning and of change in educational methods which may in turn result in the vision to lead.

The task of educating the whole population in this country had become so enormous and the influence of certain groups so important that education, like industry, was put on a mass-production basis. The result of this has been to develop the rubber-stamp, "me too" type of personality which conforms to a pattern instead of showing the boldness and initiative in thinking that are essential to both leadership and followship. The leadership which we need and seek can be generated, discovered and given its opportunity only by a group that records and analyzes its experience and defines its objectives on that basis. After the group has defined its objectives it must also have a sense for the means of obtaining them. In other words, it must be able to see in individuals those qualities of perception and definition which make possible the working out of the means of accomplishment of desired ends. There is today evidence of the emergence of an adult-education movement which should help to develop these group qualities.

Incapacity for Followship

I have considered at some length, although not exhaustively, why national leadership is so difficult to find in the United States. Another reason, so important that I consider it by itself, is a general incapacity among us for followship. There can be no leadership without followship; a leader can be a leader only if he represents—is inspired and sustained by—a following group. Before we can have really *national* leadership the people of the United States must become capable of thinking *nationally*, and of rallying behind one or another leader who sees the collective nature of our problems and of their solutions.

Few of us are capable of thinking nationally. A diagnosis of the reasons for this would be essentially identical with our diagnosis of the reasons for scarcity of leaders. In fact, it is highly probable that if we as individuals had capacity for followship, leaders would automatically emerge when needed, for the conditions which promote effective followship likewise promote leadership. For reasons of convention I have set out to talk about the call for leadership when what I should have done was to label my address "The Call for Followship."

Perhaps we can get first our followship and then, as a by-product, our leadership, if more of us can be persuaded to recognize how real is our need.

The Nature of the Call

Without trespassing upon the discussions of the closing session of our meeting on Friday evening, December 9, to which this opening session is distinctly related, it is desirable to say something about the crisis which constitutes a call for followship and leadership.

There is warrant for believing that we are experiencing not merely a cyclic depression, which itself establishes a need for strong and able leadership, but also the beginnings of a prolonged disturbance resulting from a break in the secular trend. It is the latter that establishes the need for wise and heroic leadership. This break in secular trend is comparable in its dangers to that which seventy years ago culminated in open conflict between two sections of the Union. What makes the call for followship and leadership today so urgent is the plain fact that we must remove the risk of a future conflict which although perhaps different in form might be similar in essential nature.

Several new forces in our national development have come to focus during the past decade and the resultant combined force has caused what we call a break in the secular trend.

The first of these new forces relates to population. The closure of our doors to immigration has made significant the fact that we have for some time been experiencing a declining rate of increase of population, and are confronted by the prospect of a stationary or declining population which may be realized during the lives of the younger among you in this audience. At the same time the production of social income has been increasing at a rapid rate, and the potential production with available equipment is far beyond anything we have yet realized. This requires enormous readjustments in order to maintain the circular flow of production-consumption forces: such as equalization in the domestic distribution of social income; or rapid development of foreign markets; or radical restriction in agricultural and industrial production; or some composite of these. This is a problem which challenges the wisest and boldest of leaderships.

The second of these new forces relates to international finance and commerce. We have been a debtor nation. Recently fate has been apparently unkind enough to make us a creditor nation. If we elect to remain a creditor nation what has been called a favorable balance of trade will have become unfavorable and what has been called an unfavorable balance of trade will have become favorable. To make the necessary readjustments will be a shock to our business structure as now organized. If we elect (and are able) *not* to be a creditor nation and therefore put obstacles in the way of the loan of surplus capital abroad, then we shall have forced its investment in upon our domestic market, the distribution channels of which are already clogged with a productivity which they cannot carry under present conditions. Or we may devise some way not now formulated of directing this investment upon the market in such a manner that it will not clog the channels of distribution, but that premises a policy and procedure which would be revolutionary. Here is a second problem which challenges the wisest and boldest of leaderships.

The third of these new forces is the most perplexing of all and is the major cause of dislocation of the secular trend. We have within fifteen years added a new increment of technology which has so enlarged the means of utilizing Nature's powers in production that in many trades old standards of measurement of the relations of the individual to productivity have become obsolete. We still distribute social income among the low-income classes, which purchase more than three-fourths of consumer goods and services, on the assumption that each should receive in proportion to his productivity before the day of high-powered production. As a matter of fact, the actual productivity of the high-powered equipment which he tends multiplies many times the productivity realized under the earlier conditions. The consequence is an increasingly uneven distribution of social income and savings; investment in productive equipment more rapidly than effective purchasing power is built up; technological unemployment; obsolescence of capital goods; a creaking and grinding of the commercial and industrial mechanism; and periodically a complete breakdown with consequent distress and misery and psychiatric disturbances of the collective mind. This problem is a challenge for the wisest and boldest of leaderships.

And there are other problems of a secondary nature. Many of the accustomed mechanisms of commerce and industry are functioning badly under the complicated conditions of modern business and increase the dislocation caused by the major forces. Our currency, banking system and control of credit are no longer suitable; the corporation as a legal form of organization has so evolved that it is unmanageable as a social institution; even our concept of private property, which from one point of view is a social mechanism, requires revision and redefinition to fit the present stage of industrial evolution.

These major and minor problems are all *parts of a great composite problem;* and together they constitute a challenge for the wisest and boldest and most energetic leadership to a *solution as comprehensive as is the range of these related elements of the problem.*

The Present Challenge to Business

The present challenge is to *business* to find us the needed leadership. The absence of any present collective leadership in business and the nature of past provincial leaderships in business are largely responsible for the present dislocation in the cultural trend. It is the responsibility of business to atone for past sins by establishing a socially-minded, constructive leadership. Even if the only way out is at what may shortsightedly be believed to be a cost to business the responsibility remains to lead us to a stabilized, dynamic society characterized by that plenty which it is technically possible for us to create and enjoy.

The obstacles to leadership to which we have called attention in the political area make it highly improbable that such wise and bold leadership as is required will soon arise out of that department of our life. Apparently effective political leadership can be expected in a democrarcy only when affairs have reached that stage of confusion when the very existence of the State is at stake. Fortunately, we are still far from that stage of confusion.

Although, as we have indicated, the bureaucracy of corporations has been an obstacle to the development in industry of creative collective leadership, yet if we consider as a group in our society those particular individuals who now occupy positions of power in industry, there is in that group a collection of natural abilities, a fund of experience, a knowledge of commercial and industrial technique, and a homogeniety which, had it the vision and the will to do, could give us the leadership for which we call. It could provide the leadership and automatically the nucleus of a followship. So great is the respect and admiration of American citizens for the past century of accomplishment of American business, that were our business leaders to provide the nucleus of a followship headed by a strong leadership, that nucleus would be joined by a great mass of citizens who sense our difficulty and are patiently waiting for the signal.

However—and here is involved both the vision and the will to do—that leadership must be distinctly in the general and not in any special interest. It must not look toward restricted production, price maintenance and other related devices aimed to conserve at any cost the equity values which have been unwisely permitted to be built up. The leadership we picture carries with it sacrifice rather than immediate advantage; immediate sacrifice for the sake of the ultimate advantage of not having to experience still greater sacrifice in the future.

It is difficult to understand why business should not accept this particular challenge, in view of the fact that it has given so many hostages in the nature of invested savings and has so much at stake. Its stake would be in danger of forfeit were confusion permitted to become more confounded, and discontent to become fatalistic, overt opposition to the police power of established society, in which case really effective and ruthless political leadership would surely come to the front.

Some Observations on Leadership

By IDA M. TARBELL
Writer, New York

DR. PERSON'S paper is an admirable and provocative analysis of the cry in everybody's mouth—the cry for competent leadership. He suggests a collective leadership made up of socially-minded business men, since the present crisis is supposed to be so largely due to bad business methods. They are to find and correct the causes of the present situation which he suggests may be a break in our secular trend. Under such a leadership could the broken fragments of national life be gathered up and made to function in some new way?

I am agreed that if it were possible at this juncture to select, regardless of politics or prejudices, a council of twenty "socially-minded" industrialists and charge them with making an honest and impersonal analysis of the causes of the present difficulties and devising means for preventing a recurrence of them, so far as they are national and not international (housecleaning should begin at home) we would get at least impressive results. They might be so impressive that this country would recognize an oligarchy fit to rule and so order—I say "might"!

As essential to a sound result, in my judgment, analysing and planning should be done, not in open conference with the howling world at these men's elbows, but behind closed doors. It should not be done in a hurry; that is, there should be time not only for fact-finding but for digesting and relating facts, digging out a program.

That is, if we are to have this collective leadership we should choose the best of our business leaders, give them a chance to work unimpeded, let them place their program before the country and then not drop it, as the Wickersham Committee, for instance, was obliged to do, but go out as expounders, educators, and fight for it.

Of course nothing so sensible as this can or will be done. For one reason we do not have patience in troubled times, or any time, to give a leader leisure to work out a considered program. We insist on knowing what he is going to do before his situation has crystallized sufficiently for him to know himself. We seize eagerly on rumors that have come down through a succession of mouths and condemn or support, as if we knew what we were talking about.

This impatience would hamper Dr. Person's collective leadership.

Against its success, too, would be the weakness of what he speaks of as our "capacity for followship." By nature and training under this Government we arrogate leadership to ourselves. We are poor followers.

I once heard the present President of the United States say in a dinner-table conversation, where the question of leadership was raised, that there was not a town of ten thousand people in these United States that could not furnish a man who would make a good President. I am not so sure he was right, but I am sure that there is not a town of ten thousand people in these United States but has in it at least one who feels the power to be President. The nature of our institutions, of our training, of our history, makes this inevitable.

Dr. Person enumerates various hinderances to leaders emerging in a crisis. Our "new industrialism" is one, but that new industrialism has developed in the last fifty years a series of extraordinarily powerful men. What we are today is built on what they did. Hill, Rockefeller, Harriman, Morgan, Gary, in industry, and in politics, Cleveland, Theodore Roosevelt, as well as Wilson, were all powerful leaders born of more or less crisis conditions.

Dr. Person's second reason is interesting—the complacency which our prosperity spreads, easy living. However, that easy living has never reached any great number of our population. If something like 25,000,000 families are living, even in prosperous times, on $2,000 a year or less, as the figures seem to indicate, there is not much chance for luxury. It keeps you on your toes to live at all. But it is interesting to note how large a percentage of our powerful leaders have come from families where there was anything but "easy living."

If we grant that there are men of power throughout the country who feel the capacity to be anything and everything, why is it, when they reach Congress, the Cabinet, a high place in a great corporation, that they rarely do more than arouse the hope that here is what we are seeking? One reason at this time is that on trial they show so little knowledge of economic and social principles. If they played with electricity as they do with fundamental things they would all shortly be dead. Economic, social and ethical laws may work slowly but they have the last word. These fundamental principles of things many a possible and would-be leader seems not to grasp at all. He has an easy faith in his ability to get by; this the public slowly realizes and gradually gives him up.

What are the tests of a leader, single or collective? Certainly he must have a clear idea of what he wants to do at a given moment. Lincoln is a good example. He always knew what he was after and subordinated all less essential matters to what he regarded as essential.

This knowing what he wants has been largely responsible for Mussolini's continued dictatorship. He knew what he meant to do when he was called to power and apparently he has never wavered. What he regards as his destiny, his call to power, is a more real thing to him than it was to Napoleon, for instance. Napoleon felt it, but he had his cynical moments and he enormously abused his power for personal family ends. Mussolini so far has escaped that pitfall.

The aim must be clear and there must be patience in attempting to realize it. Nothing so hinders the progress of sound undertakings as hurry. Progress does not come in one year or in one decade. It is a matter of fifty-, hundred-year periods. It is built on what has gone before and the relation to that thing that has gone before must be understood.

I heard Dr. Person complaining one night at a dinner-table discussion because the Taylor system had not yet reorganized society. But Taylor ideas seem to me to have made enormous progress. As a matter of fact, in fifty years they have gone practically around the world. I am always interested and surprised when I open my list of applications for membership in the Taylor Society to see from what distant places they come.

Leadership must keep its head, not be thrown into panic, run after bugaboos and panaceas. At the present moment there seems to be a real danger of making out of the changes that the advances in technology have brought on industry a bugbear too monstrous and fierce for men in such a government as ours even to attempt to control. We must turn ourselves over to an oligarchy of engineers.

There is no question of the part the machine has played in present-day under-distribution and unemployment. But a study of the development of the machine shows how again and again men have risen against the machine as a cause of unemployment and depression and how again and again they have been able to put the monster in its place. The real question is controlling the machine, or perhaps controlling those who make and run it, so that mankind is served rather than enslaved by it. In so far as the technocrats can help on that job they should be welcome, but to date they seem to me to be planning rather to increase man's subjugation, though I must confess that I do not see too clearly their aim or technique. This may be due to my unfamiliarity with pure scientific calculations or it may be partly due to their own unfinished thinking.

At all events Dr. Person's collective business leadership, if he gets it, must not allow itself to seize technocracy as a way out because frightened by the showing of its advocates. If his leaders are worth their salt, however, they will sift the thing to the bottom and tell us exactly what is proposed.

Whatever the plan Dr. Person's leaders put before us, it must be free from partisan and doctrinaire influences, and must accommodate itself to those who follow. Followship in this country is jealous of its power, insistent on its interest and its own views, slow to be convinced, though it can be convinced as it has been proved many and many a time. If we can get a leadership as wise in handling human forces as the man who makes an engine is in handling physical forces there will be hope of finally mastering the crisis.

Addresses delivered before a meeting of the Taylor Society, New York, December 7, 1932.

Reviews

INDUSTRIAL PSYCHOLOGY. By Morris S. Viteles, W. W. Norton & Company, Inc., New York, 1932, pages xviii, 652.

At last a definitive work is written on American accomplishment in the field of psychology as it relates to the activity of the individual worker in economic life. Within the limits set, Professor Viteles' work supplies a new standard of scholarly, exhaustive and scientific attainment. If any possible criticism is to be offered it is that the very extensiveness of the study will limit its appeal to executives and give it primarily the audience of a textbook. Perhaps the author can later be persuaded to give us a two-hundred page book in simple operating vocabulary which will appeal to adventurous managers who are anxious to utilize psychological techniques. Meanwhile the present volume represents the source-book of contemporary scholarship.

If one who has always been interested to encourage the broadening of managers' thinking along the lines considered in this treatise may offer two further comments, they would be these. All possible applications of psychology—as, for example, in the fields of morale building and conference techniques—are not necessarily subject to laboratory validation; yet for that reason they are not less the subject for scientific study. And, second, the effects good and bad of group participation as we see it manifested in all forms of organization are a proper subject of psychological inquiry and experiment. Professor Viteles does not ignore these two lines of thought but his treatment of them is relatively lacking in emphasis and constructive handling. Here, if anywhere, the proportions of his excellent study may to some appear questionable. For while it is true that the methods of effective work by the individual are vastly important as a subject of inquiry, it is equally true that in the future the problem of the total relationship of the individual to the corporate group promises to require far greater attention.

It is, finally, interesting to observe that this volume is significant in showing what psychology has not succeeded in doing, no less than in recording definite achievements. A fine, trained, candid mind with broad sympathies, has here been at pains to indicate where the promise has not been performed as well as where it has. The economic world owes the author a profound debt of gratitude.—*By Ordway Tead,* Editor of economic and business books, Harper & Brothers, and lecturer on personnel subjects, Columbia University, New York, N. Y.

ECONOMIC TENDENCIES IN THE UNITED STATES. By Frederick C. Mills, National Bureau of Economic Research, New York, 1932, pages 639, tables 213, charts 108. ($5.00)

This volume, No. 21 of the National Bureau of Economic Research studies, is a compilation of data concerning two distinct periods in the recent past: the pre-war period from 1901-13 and the years from 1922-29. For each there are chapters on changes in the volume and character of production, in commodity prices, in the relation of price to cost, and on miscellaneous changes in factors such as the distribution of income and foreign trade.

Dr. Mills writes clearly and dispassionately; his explanations of the origin and significance of his statistical data are definite and readable. There are charts, tables and index numbers that bring out the relationships between various factors otherwise obscure. The book is particularly useful as a source of information on the various secular trends that have changed, either in direction or intensity, during the past thirty years.

Dr. Mills' figures show the population growing at an average rate of 2 per cent from 1901-13 and of 1 per cent from 1922-29. The latter curve shows distinctly the tendency, commented upon by many writers, toward downward convexity.

The actual figures for the change from debtor to creditor nation as given by Dr. Mills show an average of fifty-three millions of net capital borrowing from abroad in the pre-war period; of 451 millions of net lending in the post-war years—another important secular change.

The trend toward large-scale production shows as a decrease in the number of establishments during the post-war period as contrasted with an increase in the early years of the century. From 1919-29 the number of establishments declined 18 per cent; output per establishment increased 68 per cent. These figures are relevant to the possibly increasing tendency toward centralized control of production and prices and the consequent instability of business in general.

The physical volume of production per wage earner is shown as rising at an increasing rate: 1 per cent from 1899-1914; 3.3 per cent from 1923-29; 4.5 per cent from 1928-29. The total number of wage earners is shown as rising at an average rate of 2.2 per cent per year before the war and as falling off 1.3 per cent per year from 1923-29. The coincident shifting of labor from production of physical commodities to services is shown. In 1920 the former used 65 per cent of all the gainfully employed, other than clerical workers, while the service industries employed 35 per cent. In 1930 the percentages were 58 and 42 respectively. These data are of interest in connection with the problem of technological unemployment and the antidote effect of service industries, as well as in regard to the secular increase in the violence of the business cycle due to the elasticity of the private service market.

Another interesting secular change has been the relative growth of the market for durable and semi-durable goods. This has been increasing at an increasing rate. The author points to the trend toward increased violence of the business cycle attendant on the rising proportion of goods that need not be bought at frequent intervals.

Dr. Mills' tables show the interesting trend toward allocation of a larger share of the national income to capital equipment production. They are of interest in connection with the possible secular trend toward increased violence of the cycle, not only on the financial end but also in relation to the growing instability of employment as industry becomes more and more mechanized.

The various secular trends that seem to have become established between 1900-29 may have been altered or accentuated during the past three years. In regard to that possibility this book naturally gives no definite information. It is of great interest, however, as a background for discussion now going on concerning the nature of the determining factors of the present situation.—*By David Cushman Coyle,* Industrial Engineer, New York.

COMMON SENSE APPLIED TO MOTION AND TIME STUDY. By Allan H. Mogensen, The McGraw-Hill Book Company, Inc., New York and London, 1932, pages 228.

Unfortunately much of the great potential value of a book of this sort is doomed to be lost because of a lack of knowledge and understanding on the part of executives and many of those classed as "time-study" men, of the spirit, principles, technique and mechanisms of Scientific Management as a whole.

Mr. Mogensen has in the opinion of this reviewer made a decidedly useful contribution to the literature on this important albeit somewhat disproportionately emphasised and widely misapplied feature of Scientific Management. The book deals mainly with the methods of motion and time study, designated as "micro-motion study," evolved and developed by the late Frank B. Gilbreth and his able co-worker Dr. Lillian M. Gilbreth. The cases used for illustration are not, however, confined to the use of the motion picture camera, or even strictly to the Gilbreth technique.

The reviewer is gratified that Mr. Mogensen has supplemented his own effort to dispell the popular misconception that there is any fundamental difference between what Taylor so inadequately designated by the term "time study" and what Gilbreth called "micro-motion study."

Gilbreth's contribution to Scientific Management, and it was a great one, lay in improvement of the technique of method and time study and in the development of means for the more accurate measuring and recording of true elementary movements and the time of their execution. Even more important than this was the emphasis that he laid upon economy of motion; upon the fact that normal human beings are endowed with two hands, and that carefully thought-out arrangement of materials and implements at a specially deviced workplace would enable the worker effectively to use both hands at the same time with a minimum of fatigue. Gilbreth was the first to respond to Taylor's oft expressed wish that something better than the stop-watch, or he expressed it, a time-study machine, might be invented. Previous to Gilbreth's conception of the use of the motion picture camera in conjunction with a suitable clock, the only means of measuring elementary operations averaging three hundredths of a minute or less was the laborious and not too accurate method developed by Carl G. Barth, which was first described by Taylor in "Shop Management," and which has been reprinted in almost every book and paper dealing with method and time study.

In this book, as in previous presentations of the motion- and time-study technique developed by Gilbreth, the reduction of all motions made in the performance of any task to some eighteen true and basic elementals of universal application, is dealt with at some length. These are what Gilbreth designated by the somewhat alarming term "therbligs." This reviewer is of the opinion that the promulgation of this idea—that the possible useful motions of the human body may be so analyzed, classified and timed, as to obviate the need for further time studies in order accurately to set the task time for any kind of an operation after the method has been decided—may constitute the most valuable element in the Gilbreth's contribution to scientific management. It is to be hoped that in any future edition of this book the matter of basic elements and their use in building up the standard time for specific operations may receive more consideration. Since the fundamental idea dates back to Taylor's early days at Midvale it is amazing that few of those engaged in the work of method and time study have understood or applied it. Let me quote from Taylor's paper "A Piece-Rate System" published in 1895: "No attempt is made to analyze and time each of the classes of work, or elements of which a job is composed; although it is a far simpler task to resolve each job into its elements, to make a careful study of the quickest time in which each of the elementary operations can be done, and then properly to classify, tabulate, and index this information, and use it when required than it is to fix rates . . . under the common system of guessing . . . in 1883 . . . it occurred to the writer that it was simpler to time each of the elements of the various classes of work . . . and then find the quickest time in which each job could be done, by summing up the total times of its component parts than it was to search through the records of former jobs, and guess at the proper price."

It is to be hoped that Mr. Mogensen's book may help to a more general and better understanding and appreciation of Taylor's basic idea, of which Gilbreth's "therbligs" are a logical and ultimate development, and that more "time-study men" may realize that work done in any trade consists of the performance in varying combinations of a relatively small number of elementary operations which may be isolated and studied independently; and that furthermore, these are made up of a still smaller number of true elements.

In view of the fact that credit for this conception of true elements has at times been bestowed elsewhere, the reviewer feels it his duty to state that it was discussed by Gilbreth with him during the earliest days of the former's association with the Taylor Group.

The book brings out the importance of a quality too often lacking in those who have to do with the improvement of methods and the establishment of production standards: This is the quality termed "motion-mindedness." The reviewer recalls in his own experience an instance in which, long before method and time study might have been wisely instituted in an organized way or an incentive wage system inaugurated, marked improvements in production resulted from cultivating "motion-mindedness" throughout the shop organization. In this instance virtually every foreman and workman became a methods man.

A reading of the book impresses one with the importance of creating a proper spirit of co-operation in any attempt to apply the technique of scientific management. Old as this truth is it cannot be too often repeated, as the minds of many executives even today work only in one direction when they think of co-operation.

Tucked away in Mr. Mogensen's text, in next to the last chapter, is a gem of thought, which if heeded, might be of incalculable value to manufacturers of many lines of equipment used in the production or handling of materials. It is this sentence: *"Motion and time study also offers in the present business situation means of selling new equipment."* With this as a text one might write a volume. What a vista it opens up —if one is willing to tax ones mind by thinking it through. The reviewer commends it to general managers and sales managers. It has possibilities far beyond what may appear at first glance.—*By King Hathaway,* Consulting Engineer, New York.

INDUSTRIAL RELATIONS: ADMINISTRATION OF POLICIES AND PROGRAMS. By National Industrial Conference Board, New York, 1931, pages xii, 114.

This appraisal of the current success of the administration of industrial relations in American corporations is a valuable asset and The National Industrial Conference Board has supplied a most informing and fair statement of the present situation. Its factual statement and its record of managerial results with personnel work are convincing and illuminating. They show that personnel work has achieved a degree of standardization and acceptance that entitles it to respectful consideration on an all but professional level.

I agree with the contention which it makes that the branch of this type of administration which is least satisfactorily standardized is "the interpretation to employes of management policy toward them and the means adapted for carrying out this policy."

I agree also that the reason for this is usually that there is not a consistent and sustained philosophy underlying managerial efforts in the personnel field. This book truly observes that "every industrial relations policy reflects the philosophy of human and industrial relationship held by those in whose hands the determination of the policy lies." There are, no doubt, many reasons for this failure to have a consistent philosophy and plan for personnel work, which will dominate a company's personnel efforts over a term of years. But one such limitation which is important enough to emphasize is included in the book itself. In summarizing the opinion of executives about the value of personnel work, it says that "the basic conception of fairness in the employment relationship, which underlies these programs, is a sound principle of doing business." My point is that conceptions of "fairness" and "justice" are so abstract and ambiguous that to invoke them as a principle underlying personnel work is in the last analysis to invoke practically no principle at all. Any sound philosophy of personnel administration today must be one which makes its motives concrete and its purposes intelligible to the normal self interest of the employe rather than simply being a use of fine phrases.

It seems to me unfortunate, too, that the first organization chart given of the relation of the personnel activities to the rest of the executive organization should be one which is relatively untypical and functionally unsound. All the rest of the sample organization charts published reflect much more the best prevailing practice.

Regarding social insurance of all sorts, this book is guilty of a certain inaccuracy and exaggeration when it says that social insurance "places a heavy burden upon employers." It is a question of fact throughout European experience with social insurance as to the percentage of the pay roll which has to be set aside for this purpose and I believe it is inaccurate to say that this is considered in Europe as "a heavy burden."

These critical comments apart, the book is to be commended to everyone who wants to get a comprehensive picture of the present status of personnel work in American industry.—*By Ordway Tead.*

BALANCED EMPLOYMENT. By Lee Sherman Chadwick, The Macmillan Company, New York, 1933, pages viii, 234. ($2.00)

This is a book by an industrialist who has applied some simple homilies, applicable to an individual business where one's opinions are unquestioned, to economic society as a whole. The author starts confidently by asserting his intention "to strip away some of the confusing details of our complicated system, so that we can view the simple basic principles that control our economic life." This bland assumption that there are a few simple and basic principles at once attracts attention. A wide range of discursive short chapters dealing with such varied problems as money, labor, efficiency, values, machinery, the jazz age, character, fear, disloyalty, the government, etc., lead to a chapter called "The Solution," which is to give the government power to vary the hours of industry up and down, without changes in hourly rates, in order to provide some employment, no matter how little, for all concerned. The author assumes that changes in wage rates are the cause of changes in prices, a confusion in cause and effect which would certainly not explain why wage rates lag behind in the cost of living in certain stages of the business cycle. His insistence on unchanged wages in boom times and depression is of little importance because it denies all government authority in the fixing of wages. The actual fluctuations of business are thus practically untouched. It simply disregards the price and money phenomena which are so large a part of the cause.—*By Herman Feldman,* Professor of Industrial Relations, The Amos Tuck School of Administration and Finance, Dartmouth College.

TO-DAY'S CHALLENGE TO MANAGEMENT. By Harry Arthur Hopf, H. A. Hopf & Company, 40 Rector Street, New York, 1932.

This address delivered in Baltimore and in Dayton before management groups brings out the need for management today to reconcile its profit motive with the advancement of social welfare and points to some of the means for achieving this end.

ESSENTIALS OF A PROGRAM OF UNEMPLOYMENT RESERVES. National Industrial Conference Board, Inc., New York, 1933. ($1.00)

Here is a compact presentation of the fundamentals or basic principles of a sound and practicable program of unemployment reserves. Under the "Legislative Situation and Outlook" recent significant developments in Wisconin, New York, Ohio, Massachusetts, Connecticut, etc., are outlined along with the development of the American Federation of Labor's attitude and other important events. A tabular analysis of private unemployment benefit plans is included as an index. Employers and public administrators will find this a helpful body of factual data.

OPERATING RESULTS OF MANUFACTURING PLANTS IN MINNESOTA, 1926-1930. By George Filipetti, William Dachtler, Judson Burnett, Bulletin of the University of Minnesota Employment Stabilization Research Institute, Volume I, Number 7, December, 1932, The University of Minnesota Press, Minneapolis. ($1.00)

The factual data are presented as a basis for a voluntary co-operative regional plan in Minnesota. It is hoped that this presentation and analysis will lead to three things: (1) scientific research to develop new products to replace old; (2) more scientific management of individual enterprises to put them on a better competitive basis as compared with other regions, and (3) co-operative research agencies to guide management in meeting the complicated problems of the day.

UNEMPLOYMENT INSURANCE. By Mary B. Gilson, Public Policy Pamphlets No. 3, The University of Chicago Press, Chicago, 1933, pages ii, 30. ($.25)

The case for unemployment insurance is here concisely put, backed by historical data which Miss Gilson, because of her wide experience in industry and thorough study of the system of unemployment insurance in Great Britain, is particularly well qualified to summarize.

SALARIES AND COST OF LIVING IN TWENTY-SEVEN STATE UNIVERSITIES AND COLLEGES, 1913-1932. By Viva Boothe, The Ohio State University Press, Columbus, Ohio, 1932, pages xvi, 158.

This study compares the trend of cost of living with the trend in university salaries during the last twenty years. The analytical text is supported by numerous tables and charts made up from the material secured from the sending out of a questionnaire. The fact presented will be of interest and value in the academic field.

Notes

Reflecting the conditions and problems of the fourth year of the world-wide depression, the "Report of the Director" of the International Labor Office, Geneva, is of exceptional interest and importance. Because the situations reviewed imply that social problems are no longer sharply distinguishable from economic problems, the report concludes with a sympathetic consideration of the forms which economic planning is taking and the directions toward which its future development seems to be tending. In the United States the report ($.40) may be procured at the World Peace Foundation, 40 Mt. Vernon St., Boston.

A special report on the United States Census of Distribution has been issued by the International Management Institute, Geneva (pages 72; Swiss Fr. 2).

The "Social Work Year Book for 1933" in its 680 pages of material for social workers and other students even surpasses the high standard set by earlier editions as a result of new emphasis on utility. Russell Sage Foundation, $4.00.

Books Received

Accounting Manual for Small Cities (Under 25,000 Population). By Carl H. Chatters, Municipal Finance Officers' Association of the United States and Canada, 850 E. 58th Street, Chicago, 1933, pages 79.

**The American Federation of Labor—History, Policies, and Prospects.* By Lewis L. Lorwin, The Brookings Institution, Washington, D. C., 1933, pages xix, 573. ($2.75)

**The Bank for International Settlements at Work.* By Eleanor Lansing Dulles, The Macmillan Company, New York, 1932, pages xii, 631. ($5.00)

A Call to the Teachers of the Nation. By the Committee of the Progressive Education Association on Social and Economic Problems, The John Day Company, New York, 1933, pages 31. ($.25)

**Can Business Build a Great Age?* By William KixMiller, The Macmillan Company, New York, 1933, pages 320. ($2.50)

**Can Business Govern Itself?* By Edgar L. Heermance, Harper & Brothers, New York and London, 1933, pages xxv, 259. ($3.00)

**Cost Accounting.* By Charles Reitell, International Textbook Company, Scranton, Pa., 1933, pages viii, 441.

**Credit and Peace, A Way Out of the Crisis.* By Feliks Mlynarski, George Allen & Unwin Ltd., London, 1933, pages 92 ($1.25)

**Debt and Production, The Operating Characteristics of Our Industrial Economy.* By Bassett Jones, The John Day Company, New York, 1933, pages xi, 147.

**Displacement of Men by Machines.* By Elizabeth Faulkner Baker, Columbia University Press, New York, 1933, pages xxii, 284. ($3.50)

**Economic Disarmament.* By J. H. Richardson, George Allen & Unwin Ltd., London, 1931, pages 219. (£0/7/6)

**An Economic History of Soviet Russia.* By Lancelot Lawton, Macmillan and Co., Limited, London, 2 volumes, Vol. 1, pages ix, 308, Vol. 2, pages viii, 629. ($6.50)

**Ethical Systems and Legal Ideals.* By Felix S. Cohen, Falcon Press, Inc., New York, 1933, pages xi, 303. ($3.75)

**The Federal Reserve Act, Its Origin and Problems.* By J. Laurence Laughlin, The Macmillan Company, New York, 1933, pages xii, 400. ($3.50)

**The Great Technology.* By Harold Rugg, The John Day Company, New York, 1933, pages xiv, 308. ($.50)

**How to Budget for Profit.* By Floyd H. Rowland, Harper & Brothers Publishers, New York and London, 1933, pages xvi, 297. ($4.00)

**Human Nature and Management.* By Ordway Tead, McGraw-Hill Book Company, Inc., New York and London, 1933, pages x, 338. ($3.50)

**The Industrial Discipline.* By Rexford G. Tugwell, Columbia University Press, New York, 1933, pages 241. ($2.50)

**Industrial Pension Systems in the United States and Canada.* By Murray Webb Latimer, Industrial Relations Councelors, Inc., New York, 1932, pages xxi, 1195 (2 Vols.).

**Insecurity, A Challenge to America.* By Abraham Epstein, Harrison Smith and Robert Haas, New York, 1933, pages xv, 680. ($4.00)

**The Internal Debts of the United States.* Edited by Evans Clark, The Macmillan Company, New York, 1933, pages xx, 430. ($4.50)

**Job Insurance.* By John B. Ewing, University of Oklahoma Press, Norman, Oklahoma, 1933, pages 263. ($2.50)

**Labor Economics and Labor Problems.* By Dale Yoder, McGraw-Hill Book Co., Inc., New York, 1933, pages x, 630. ($3.50)

**The League Year-Book 1932.* Edited by Judith Jackson and Stephen King-Hall, The Macmillan Company, New York, 1932, pages xiv, 590. ($3.50)

**Merchandising of Cotton Textiles—Methods and Organization.* By Melvin T. Copeland and Edmund P. Learned, Harvard University, Graduate School of Business Administration, Bureau of Business Research, Soldiers Field, Boston, March, 1933, pages 92.

**Modern Industrial Organization.* By Herbert von Beckerath, McGraw-Hill Book Company, Inc., New York, 1933, pages xiii, 385. ($4.00)

**Money Power and Human Life.* By Fred Henderson, The John Day Company, New York, 1933, pages 205. ($1.75)

**Moral Man and Immoral Society.* By Reinhold Niebuhr, Charles Scribner's Sons, New York and London, 1932, pages xxv, 284. ($2.00)

**The National Industrial Recovery Act.* By Benjamin S. Kirsh, Central Book Company, New York, 1933, pages 156. ($2.50)

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